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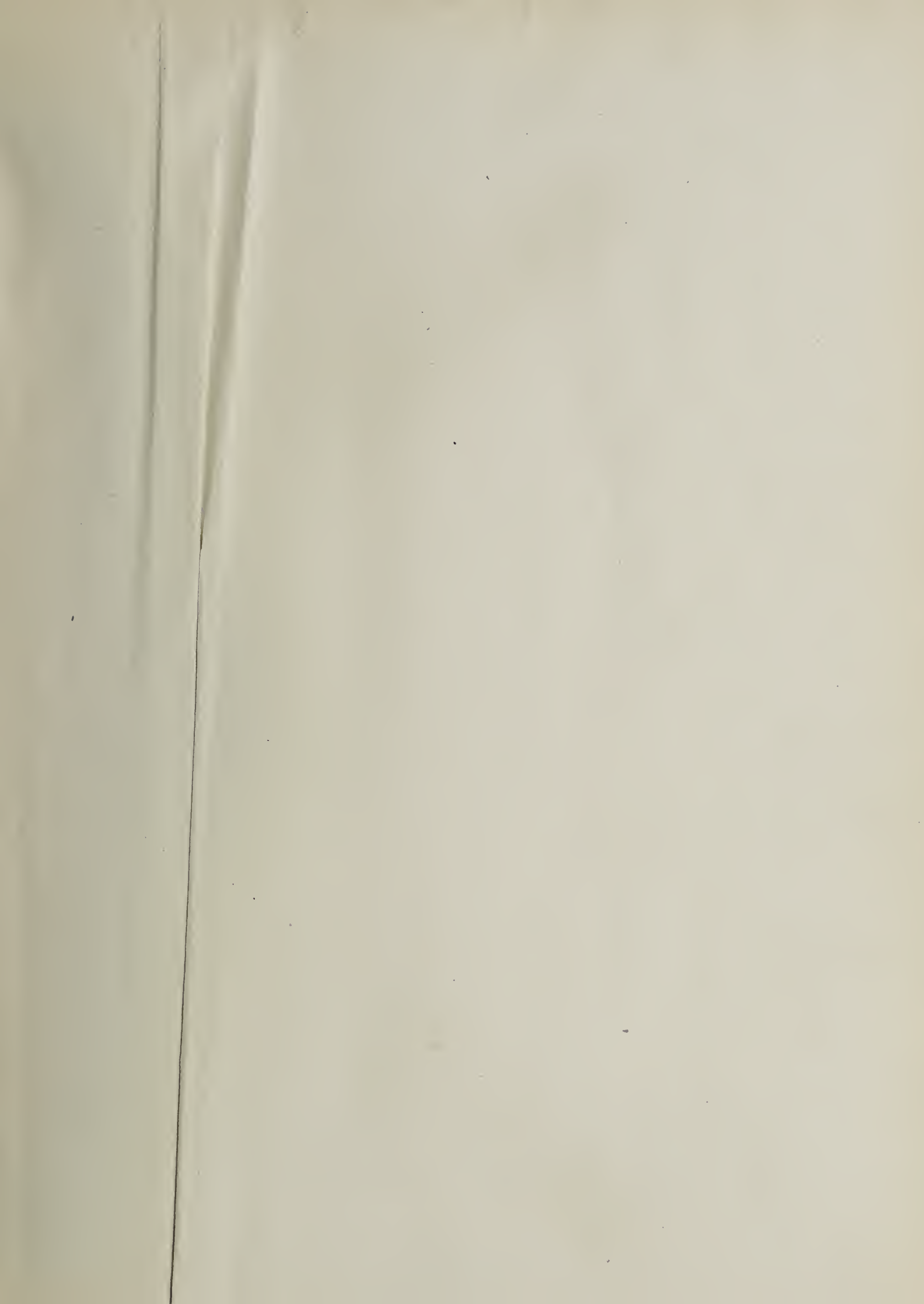
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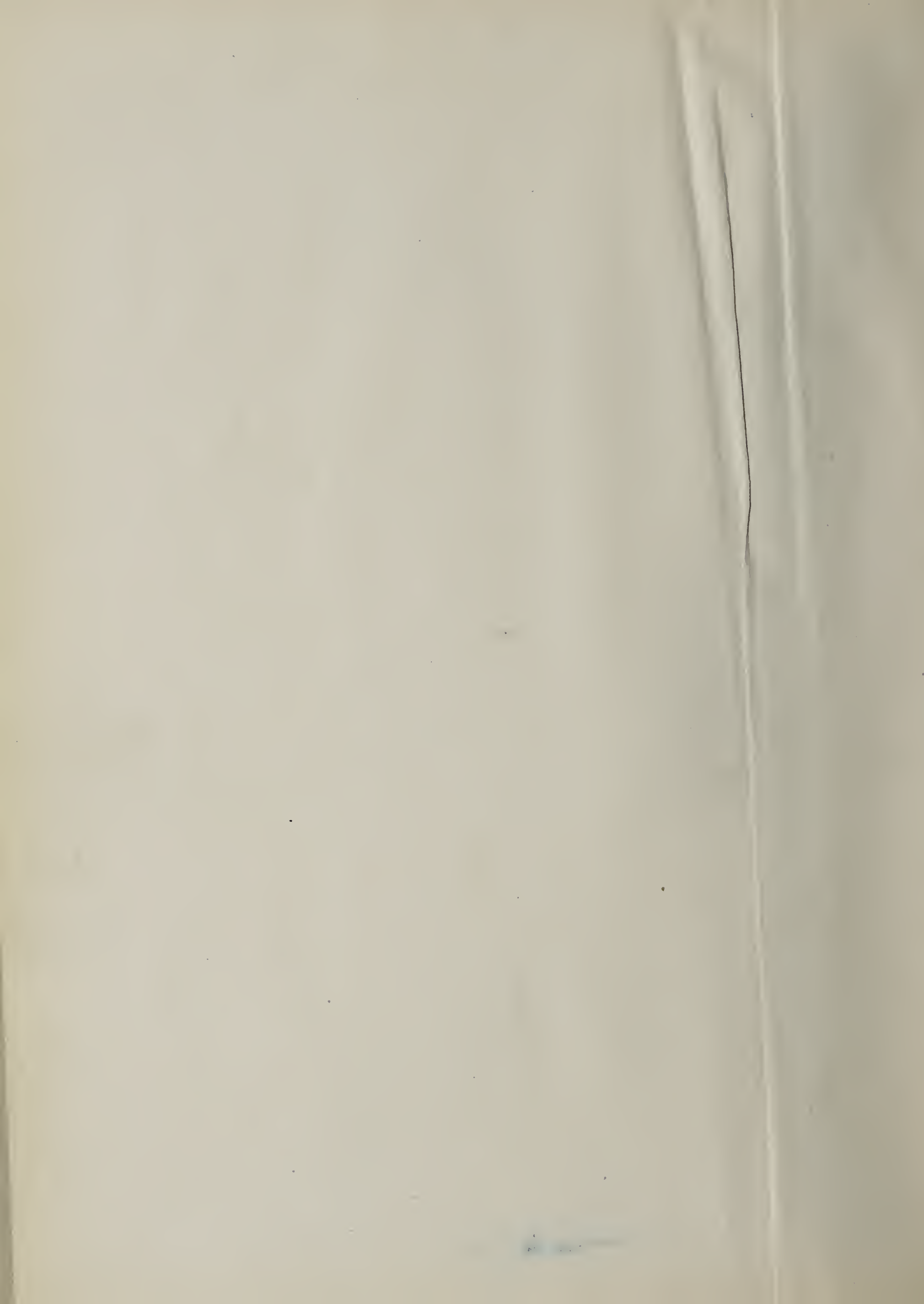
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BRICK and CLAY RECORD

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

Mark These Dates on Your Calendar

YOU HAVE BEEN ECONOMIZING. Liberty bonds, war savings and thrift stamps, the United War Work campaign, local war chests, etc., have made this imperative. You have not been doing as much traveling as formerly. But the war is over and it is time to wake up and get busy, so pack up your bag and come to Chicago during the week from February 10 to 15, when the big city by the lake will be the mecca for the nation's brick men. A little trip about that time will brush away some of the metal cobwebs and disburse some of the gloom that may be still hanging around.

Manufacturers of common brick, and dealers in and manufacturers of face building brick, have never met under such circumstances and conditions as they will meet when the Common Brick Manufacturers Association of America, the American Face Brick Association, and the Face Brick Dealers' Association of America get together at the Edgewater Beach and La Salle hotels in the nation's second city. Large and varied problems will be presented and discussed. It is expected that many of them will be solved. It is certain that the results of this week will go far toward shaping the success or failure of the brick industry in America during 1919.

Come loaded with optimism and meet men in your business who are charged to the finger tips with new hope.

You cannot afford to pass up Chicago during the second week in February, so mark the dates down *now* on your calendar pad.

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The Needed Push is Given

IT HAS BEEN APPARENT to executives of the Government as well as progressive business men that the most important feature of the nation's reconstruction program is the immediate resumption of building and highway construction on a large scale. The President, in his message to Congress in the opening days of December, urged the immediate undertaking of such work. The big conference of business men at Atlantic City, N. J., December 3 to 6, passed a resolution to the same effect. Individuals thruout the country, both those who are in the public eye and those of a more modest calling, have written letters, made speeches and sent

telegrams endorsing this program. But it remained for William B. Wilson, secretary of labor, and a member of President Wilson's cabinet, to lend the needed impetus to the idea. Everybody said "Oh yes, that is the thing to be done." Secretary Wilson said, "Let's do it."

Mention is made on another page of this issue of the new division that has been created in the Department of Labor for the purpose of interesting the nation in public works and private construction. Secretary Wilson announces that the new service will gather and distribute information that will enable private initiative to make the transition from a war to a peace basis without serious interruption, due to lack of data on which business judgment must depend.

A survey of business conditions will be made with a view to learning how labor and capital may be profitably employed during the critical period when factories are being made over for peace production and markets are being canvassed for future outputs.

The division which will carry on this work is now being organized by F. T. Miller, the publisher of construction periodicals, as a section of the Department's Information and Education Service, of which Roger W. Babson is chief. The new organization is called the Division of Public Works and Construction Development, and occupies the building at 16 Jackson Place.

The particular objective of the bureau's research will be to secure data for the use of the construction industry, but the material to be collected will be so varied that the information will be of value to industry generally. The facts made available will be of help to any community or investor in determining whether it is advisable to undertake public or private building at present. When circumstances unfavorable to construction are discovered an attempt may be made to correct them, but there will be no stimulation of economically unsound enterprise. The findings of the bureau will be given the widest publicity.

The pivotal nature of the building industry is economic reconstruction and the general purpose of the work of this division is expressed in Secretary Wilson's statement:

"Building construction will help to provide employment for returning soldiers and for workmen dismissed from war industries. One of the largest sources of prospective employment is the building trade and its allied factory industries.

"In the case of private construction, a resumption

of activity will lessen the congestion of population, improve conditions affecting the public health and convert inactive property into active property—which supplies the means that enable communities to support the functions of governments.

“During the war the nation practically concentrated all its efforts on the production of goods for immediate consumption—war materials, food, clothes. The failure to produce the normal quota of goods for future consumption has made these scarce and high-priced. Chief among such goods are building and other real estate improvements, including public works, as roads, bridges, etc. The scarcity of buildings, for example, creates high rents.

The inquiry will be under the direction of business men of wide practical experience who are serving without pay. The actual investigation will be conducted by a group of economists and special agents supplied by the Department of Labor and other Government departments or lent by universities. The field will include the cost and supply of building materials, the amount of labor available and its cost, the values of land, prevailing rents, the supply of capital, the amount of construction held up by the war and the demand for building in all parts of the country.

Under the supervision of the economics section, five other sections will prepare information for publication by the means of the press, public speakers, posters and the medium of organized labor.



Lumberman Teaches A Lesson

A STORY of unusual interest appears on pages 35 and 36 of this issue. This story has to do with a controversy which Edward Hines, millionaire lumber manufacturer of Chicago, has with the United States Government with regard to a hospital which he has built for reconstructing wounded soldiers.

A result—we might say *the* result, so far as the brick manufacturer is concerned—of this controversy, which has manifested itself in the form of full page advertisements and other publicity, has been a tremendous boost for fireproof construction (built with brick) for the hospital for which Mr. Hines is sponsor located at Maywood, Ill., is built with perfectly good clay brick and in order to put his proposition across to the public, he has not lacked words to express his condemnation of “temporary, inflammable frame structures.”

Thus, it has remained for a lumber man to teach the brick manufacturers a much needed lesson and show them a splendid example.

On the face of the facts it seems that Mr. Hines is entirely justified in his contentions and that the Government should use the hospital which he has so courteously erected in place of the fire traps which it

is planned to use at Fort Sheridan. Mr. Hines might well be called a benefactor of humanity, but what we want to thank him for most is the administration of a well deserved rebuke to the clay industry.

Column after column of exhortation, exclamation and condemnation has appeared in these pages in an effort to arouse some enthusiasm for an extensive advertising and publicity campaign to stimulate the consumption of clay products to a point where participation in the production of such ware would bring the proper return on an investment in a clay plant. We have not been alone by any means in that work. Splendid men of prominence in the clay products industry have orated by the hour to wake up a sleeping industry to the performance of nothing more than a duty to itself.

Now, upon the eve of the conventions and annual meetings of most of the clay products associations, it would seem fitting to call attention to what one of the largest lumber manufacturers in the country is doing for the brick business and to inquire of clay products manufacturers everywhere if it is not time for them to do something really worth while along publicity lines for their own product.

CONVENTIONS IN PROSPECT

January 21—Kentucky Clay Products Association, Old Inn Hotel, Louisville, Ky.

January 30 and 31—Wisconsin Clay Manufacturers' Association, Republican House, Milwaukee, Wis.

February 3, 4 and 5—American Ceramic Society, Fort Pitt Hotel, Pittsburgh, Pa.

February 5, 6 and 7—National Brick Manufacturers' Association, William Penn Hotel, Pittsburgh, Pa.

February 10, 11 and 12—American Face Brick Association, Edgewater Beach Hotel, Chicago, Ill.

February 10, 11 and 12—Face Brick Dealers' Association of America, Edgewater Beach Hotel, Chicago, Ill. The above are the correct dates. Convention announced as on February 13, 14 and 15 in December 31 issue. These dates have since been changed to the above.

February 12, 13 and 14—Common Brick Manufacturers' Association of America, Hotel La Salle, Chicago, Ill.

May 26, 27 and 28—Canadian National Clay Products Association, Montreal Builders Exchange, Montreal, Que.

ON THE RIGHT: The "Boardwalk" at the Edgewater Beach Hotel, Chicago, the Atlantic City Resort of the Middle West.

BELOW: A View In the Wonderful Marine Cafe and Grill Looking Out on the Lake. This Dining Room Seats 800 Guests.



PROGRAM BRICK GET-

Many Subjects of Vital and Timely Interest, as Revealed in the Findings of the American Face Brick Association, Common Brick Manufacture of America, at Chicago, February 10 to 15—What Will Probably Place at the Big Associational Dinner on Wednesday Evening,

OLD TIMERS, who are reminiscent enough to remember the brick conventions of a by gone day, when the clay-workers crowded the big hotels and one was able to meet most any man of consequence in the business, will see a good sight for sore eyes when they attend the conventions of the American Face Brick Association, Common Brick Manufacturers' Association of America, and the Fire Brick Deal-

ers' Association of America, at Chicago during the week from February 10 to 15.

Not since the first year of the European war has there been a gathering exclusively of brick men such as will take place in America's second city during the second week in the second month of the big year of peace and prosperity—1919.



WM. SCHLAKE
President Common Brick Manufacturers' Association.



S. C. MARTIN
1st Vice-President American Face Brick Association.



JNO. M. STONER
President Face Brick Dealers' Association of America.



ON THE LEFT: Automobile Entrance to the Hotel, Constructed of Brick with a Roof of Clay Tile.

BELOW: The Main Lounge—Luxuriously Furnished and Unusually Commodious.



f o r BIG TOGETHER

Following Paragraphs, Will be Discussed at the Coming Annual Manufacturers Association of America, and the Face Brick Dealers Association—Be the Largest Joint Gathering of Brick Men Ever Held Will Take February 12, Lincoln's Birthday—Harry A. Wheeler, Speaker

The biggest event of these three large meetings will be a record breaking joint associational dinner at the Edgewater Beach Hotel on Wednesday evening, February 12, Lincoln's birthday, at which H. A. Wheeler, president of the Chamber of Commerce of the United States, will be the principal speaker. Those who heard Mr. Wheeler make the opening address at the reconstruction conference at Atlantic City,

N. J., December 3 to 6, will look forward to hearing the leader of the American business men talk again on a subject of primary and current interest to the nation's brick manufacturers. Further than this, Mr. Wheeler's reputation for sound thinking and clear speaking will bring to this dinner a large number of men who have no direct interest in the clayworking industry but who will want to hear what



C. P. MERTENS
Secretary Common Brick Manufacturers' Association.



J. M. ADAMS
2nd Vice-President American Face Brick Association.



A. S. REID
Trustee Face Brick Dealers' Association of America.

Mr. Wheeler has to say to the brickmakers. It can readily be seen that the attendance of such men at the Lincoln's birthday banquet will be very much to the advantage of the whole clayworking industry, since most of these men will probably get their first impression there of the brick manufacturing business—which needless to say will be a very good impression. In other words, this associational dinner, while not planned primarily with that object in view, will prove to be a very good advertisement for the brick business. Mr. Wheeler's reputation usually commands prominent space in America's daily newspapers.

In addition to Mr. Wheeler there will be three other speakers who will talk for a brief period on matters of direct interest to the brick men present, the first of these being William Schlake, president of the Common Brick Manufacturers' Association of America, and the other two, one representing the American Face Brick Association, and the other the Face Brick Dealers' Association of America.

This dinner will be strictly an informal affair. It will be characterized by the absence of the usual second-hand singers and entertainers. In other words, there will be no cabaret. It will be a business affair, yet one of such informality and fellowship as to be a delightful and satisfactory get-together.

COMMON BRICK MAKERS WILL GET DOWN TO "BRASS TACKS"

The first annual meeting of the Common Brick Manufacturers' Association of America will be held at the La Salle Hotel, Chicago, February 12, 13 and 14.

The morning of Lincoln's birthday, February 12, will be devoted to the registration of incoming brick men. At 2:30 in the afternoon, the convention will be called to order, following which there will be a roll call, reading of minutes, admission of members, appointing of committees, and report of the president.

The big feature of this afternoon session will be a talk by W. N. Cary, president and general manager of the Cary Brick Co., Mechanicsville, N. Y., on "Our Association." Most common brick manufacturers will remember that Mr. Cary wrote an article entitled, "A Diagnosis, Prescription, Cure and Tonic for the Common Brick Business of America," which was published in the November 5 issue of *Brick and Clay Record*. Many have pronounced this as the best that they ever read on the situation in the common brick industry. Mr. Cary has gone this one better. In his new talk, which will be given on Wednesday afternoon, February 12, he will "hit the nail on the head," as it were.

At 10:00 A. M., February 13, an address will be made by H. W. Conway, certified public accountant, on "Cost Accounting as Applied to the Brick Business." Mr. Conway, it is stated, started his business career in the brick manufacturing "game," so he knows the industry from the pit to the loading platform. It is needless to say that his talk alone will be worth coming to Chicago for during the week from February 10 to 15. Following Mr. Conway, there will be a general discussion by the members of the association on this very important subject of cost accounting in the brick business.

A very encouraging feature of the program of the Common Brick Manufacturers' Association will be an address by a representative of N. W. Ayer & Co., of Philadelphia, on "Possibilities in Advertising." The right kind of promotion is badly needed by the common brick industry which has

suffered for years from over-production and under-consumption. The Common Brick Manufacturers' Association of America does not know just what it is going to do in an advertising way. It is more than probable that the first an-



LaSalle Hotel, Chicago, Where Common Brick Manufacturers Will Meet in Annual Session from February 12 to 14.

nual meeting will have a great bearing upon the policy that will be determined upon.

At 4 P. M. on Thursday afternoon, February 13, an insurance expert will speak on "Conducting Our Own Liability and Fire Insurance." This is a live subject but one which has been very much neglected in the past. It is believed by many that if the brick men could undertake some sort of a reciprocal insurance bureau, it would save them a great deal of money every year in fire and liability insurance premiums. This address will be followed by general remarks on the subject on the part of the members of the association.

The last day of the convention, February 14, will be devoted, in the morning, to reports of officers and committees, as well as any unfinished business that may come up for attention.

At 2:30 in the afternoon new business will be transacted and the regular officers will be elected, followed by an adjournment.

MOST IMPORTANT CONFERENCE EVER HELD BY FACE BRICK MEN

Face brick manufacturers will assemble at the Edgewater Beach Hotel, Chicago, on February 10, 11 and 12, for the seventh annual membership meeting of the American Face Brick Association for what appears to

be the most important conference ever held by that industry.

During the war, the demand for face brick fell to its lowest in twenty years. Very little construction of the type generally using face brick was erected, and as a consequence, manufacturers, specializing in face brick in pre-war times, either turned their manufacture over to some other product in better demand or shut down their plants. With the exception that there are well located plants in existence, and some of them have been able to maintain skeletons of their former organizations, the present situation is not unlike an industry just starting out. As a matter of fact, face brick has turned to a clean sheet, is taking stock of itself and is trying to forecast what conditions it will meet in the future in order to recoup some of its losses during the past two years.

Several situations, each vitally important, must be reviewed by the industry, and understandings as to how these situations will be handled must be reached.

DIVISION CHAIRMEN WILL DISCUSS CONDITIONS

In the first place, what is the business situation? What are the prospects for demand in 1919? What are the labor and transportation situations? Ten minutes will be given to the chairman of each division of the association at one of the sessions, for a review of the above conditions in his district. At the conclusion of this far-reaching digest of conditions, every manufacturer present will be able to form his own conclusions as to the situation as a whole.

FREIGHT RATES TO RECEIVE ATTENTION

Freight rates on brick are at present one of the greatest questions which the industry faces. A flat advance of 40 cents per ton was added to rates current on June 24, 1918. Despite strong joint protests on the part of face, paving and common brick and hollow tile associations, no relief has been extended, altho it has been admitted by the authorities that the situation is unjust. Furthermore, a compromise offer by the United States Railroad Administration to change present rates to a 25 per cent. advance over rates in effect June 24, with a minimum rate of 50 cents per ton and a maximum increase of \$1 per ton, has been withdrawn until the administration could consider the advisability of putting in mileage brick scales now under preparation by the District Traffic Committee in Official Classification Territory. This subject will be dealt with at this meeting by an authority who has followed the situation carefully from the beginning.

ARE PRICES TO BE CUT?

If demand during the early part of 1919 should be slow, are prices to be slashed to points below the cost of manufacture? What is the cost of manufacture? The Price Fixing Committee of the War Industries Board has fixed prices on common brick for many sections of the country, and before the end of the month is expected to conclude its work affecting brick in all sections where the ware was allocated on Government tentative prices. Perhaps in no other way have the manufacturers been brought to a realization of how little they knew about the actual cost of manufacture and sale. At this meeting, an expert will make a short talk on the accounting system adopted by the association, and his comments will be illustrated by the actual forms which are provided to accompany the system.

THE NEED FOR ADVERTISING

One of the most important problems confronting face brick manufacturers is the reaching of a decision as to

whether they are collectively to popularize their product or are to continue to accept only such business as happens to fall their way. The association has a well-worked-out plan for co-operative promotion work. At this meeting, a representative from each division will make a short talk as to the need for promotion work in his district and the sentiment of the manufacturers regarding same.

There are other kinds of promotions than those relating to demand. The question as to whether the industry can consistently support a bureau for the purpose of correctly presenting the true situation to all prospective investors in the industry, with a view to eliminating the construction of ill-advised promotions, will be given due consideration at this conference.

YOU CANNOT AFFORD TO MISS THIS MEETING

All divisions of the American Face Brick Association will meet in rooms to be assigned to them at the Edgewater Beach Hotel, at 10:00 A. M., Tuesday, February 11. At that time all of the intimate details of the business which affect plants in each of the districts will be given full attention.

All progressive face brick manufacturers located east of the Rocky Mountains are expected to be in attendance. Indeed, it is hard to conceive how any manufacturer at all interested in face brick can afford to miss this epoch-making conference.

DEALERS TO "PULL OFF" NEW "STUNTS" AT COMING ANNUAL MEETING

The organization of face brick dealer clubs in every important city in the United States, the electing of a secretary and dispatching him to the annual meeting of the Face Brick Dealers' Association of America, at the Edgewater Beach Hotel, February 10, 11 and 12, is one of the big aims of this live, up-to-the-minute organization. Of course, there are a number of cities where there are face brick dealer clubs. These organizations will send their regular secretaries, who will meet with the new secretaries of other face brick clubs in a momentous conference on Monday, February 10, at 4:00 p. m. It is planned to put considerable emphasis on this meeting between now and the convention, so that the conference may be largely attended by secretaries from all important cities. The exchange of ideas that will take place at this meeting will be of tremendous value to face brick dealers all over the country.

MAY FORM PERMANENT CLUB SECRETARY BAND

It may be that the secretaries will organize themselves into a little band and hold a meeting a day or so prior to the regular annual meeting of the Face Brick Dealers' Association of America every year. A great deal of interest would thereby be created and also a large amount of good could be done. Some dealers have already suggested that this plan be put into operation, believing that it would be a feature that could be made highly profitable.

Monday morning, February 10, will be devoted by the dealers to the registration of all members of the association, the receiving of applications and getting acquainted.

At 2:00 o'clock Monday afternoon there will be a meeting of the executive committee which will pass on applications for membership and transact any other business that may come before the committee.

At 10:00 a. m., Tuesday, February 11, the convention will

open with the calling of the roll, followed by the regular reading of the minutes, the report of the president, the report of the secretary, the report of the treasurer, and general discussions, as well as the appointment of the nominating committee.

A RECONSTRUCTION CONFERENCE

The exact details of the program for Tuesday afternoon have not as yet been decided at this writing but the thought is that the meeting will be devoted mostly to a discussion of "Reconstruction." How the dealers can serve the manufacturers best, how the dealers can operate their offices and yards to the greatest advantage and how to overcome differences between dealers in the same locality, will be some of the questions that will undoubtedly be discussed. A

manufacturer, a dealer from the South, one from the North, one from the East, and one from the West, will have a place on the program for this particular afternoon. Their names will be made known in subsequent announcements of the coming convention.

Wednesday morning, February 2, will be devoted to the election of officers and the transaction of any unfinished business. On Wednesday afternoon, there will be the installation of newly elected officers, who will naturally take charge of the meeting and lay out plans for the coming year.

On Wednesday evening the face brick dealers will unite with the manufacturers of both face and common building brick in a joint dinner of large proportions. Details of this dinner have already been given.

EDGEWATER BEACH HOTEL—*the* ATLANTIC CITY RESORT *of the* MIDDLE WEST

NOT THE LEAST, by any means, of the features that will appeal to the brick men who visit Chicago during the week of February 10 to 15, will be the Edgewater Beach Hotel. The Atlantic City Resort of the Middle West, as the hotel is known among travelers and those of discriminating taste, is a place many have desired to visit because of its uniqueness and refinement.

The hotel is located on Chicago's famous north shore, where it serves both as a delightful summer watering place and as a practical luxurious winter residence. The location is ideal—between Sheridan Road and Lake Michigan—with a large private park extending more than one thousand feet along the lake front.

GOOD TRANSPORTATION

The hotel has the best of transportation facilities to and from the business district of Chicago. The new Edgewater Beach station, two and one-half blocks west, on the Evanston division of the Northwestern Elevated Railroad at Berwyn Avenue, has express service—twenty-five minutes to downtown—fare six cents. The yellow taxicabs will convey guests to and from the downtown depots, fare about \$1.75 each way. A limousine bus line conveys guests of the hotel in about thirty minutes, via Sheridan Road, Lincoln Park and the Lake Shore Drive over Rush Street bridge to the "loop" fare ten cents each way. Buses leave the hotel every five minutes, from early morning up to midnight.

The Broadway electric line, which runs to the "loop" district passes Berwyn Ave., three blocks west of the hotel, every three minutes during the day and evening—fare five cents to any part of the city.

The hotel has an unusual and excellent floor plan, which gives each one of the four hundred and fifty rooms and baths an outside exposure and nearly three-fourths of that number a view of the lake. All delegates to the conventions of the American Face Brick Association and the Face Brick Dealers Association of America will register under the European plan, for which a special rate has been made of \$2 per day. When it is remembered that a room and bath in most hotels in America's large cities now costs all the way from \$3.50 to \$10, it can readily be seen how reasonable in cost will be a stay of three or four days at the Edgewater Beach Hotel, during the coming brick conventions. An excellent club breakfast may be obtained from forty to eighty-

five cents, club luncheon, seventy-five cents, and club dinner \$1, \$1.50 and \$2. These meals are in addition to a regular a la carte service. There is a coffee shop at the hotel where the same food is served as in the main dining room at a somewhat lower cost because of a simpler service.

The marine cafe and grill on the lake, seating eight hundred guests, is an unusual feature of the Edgewater Beach Hotel. In it will be found a desirable location, excellent service and the best to eat and drink.

For the benefit of those who wish to get some sort of an idea as to the appearance and extraordinary features of the hotel, four views are reproduced on the opening pages of this story.

In closing, let it be said that it is claimed that the temperature in winter at the Edgewater Beach Hotel is fifteen degrees warmer on the shore of Lake Michigan than it is on the west side of the city.

THE LA SALLE—A GOOD HOTEL OF WIDE REPUTATION

The Hotel La Salle, at which the Common Brick Manufacturers' Association of America will meet in its sessions, outside of the joint dinner on Wednesday evening, February 12, which will be held at the Edgewater Beach Hotel, is a well known stopping place to every business man who travels to any extent. The La Salle Hotel is among the better hotels of America. Every convenience will be found there as well as the best of rooms and meals. The hotel is located on the northwest corner of Madison and La Salle streets, in the financial district of America's second largest city. A cab can be had at any of Chicago's five railroad stations which will convey brick men to the La Salle Hotel for a nominal sum.



Fire Losses in Ontario

For some years there has been an accelerating demand for a remedy to minimize the losses by fire in Canada. Referring to the Province of Ontario, with a population of somewhat over 2,500,000, the total fires during the calendar year 1917 numbered 9,601, aggregating a loss of \$10,365,539, of which only \$7,897,447 was covered by insurance. During the first nine months of the current calendar year there were 7,659 fires, with an aggregate loss of \$9,703,973, of which \$7,665,615 was covered by insurance.

GREATEST CERAMIC MEETING PREDICTED

New and Increased Membership, Tremendous Industrial Advancement Attained During the Past Year, Need for Cooperation in Reconstruction Period and Promise of an Enjoyable Time All Point to a Record-Breaking A. C. S. Meeting at Pittsburgh, February 3 to 5

THE COMING CONVENTION of the American Ceramic Society which meets at the Fort Pitt Hotel, Pittsburgh, Pa., on Monday, Tuesday and Wednesday, February 3, 4 and 5, promises to be the biggest ever held by that organization. A large meeting is assured both in regard to attendance and discussions that will result after such a big year for the industry as the one just past has been. An enjoyable meeting is predicted, for with the war over and everyone anxious to get loose from the strain of the strenuous past year, together with the fact that prosperity and great achievements are everywhere evident, in the ceramic field, a meeting at this time cannot help but increase the good-fellowship which has always characterized the convention of the American Ceramic Society.

The selection of Pittsburgh as the point of assemblage itself means a great deal toward the success of obtaining a large attendance because of its central location in regards to the bulk of the ceramic industries. The many ceramists of New Jersey as well as the clayworkers from points in West Virginia, eastern Kentucky, Ohio, New York and Pennsylvania are within but a very short ride from the "Smoky City." It is doubtful whether a more accessible location for a meeting place for the ceramic industries could be found than is Pittsburgh.

During the past two years many new additions have been made to the membership of the society. Also during this same time many of the older members of the organization have been extremely busy with war work and have not been able to attend any of the past few meetings. Now, however, since peace is to reign again, many of the men formerly engaged in war work will find the opportunity to attend and all of the new members will naturally want to learn more specifically the advantages of being a member.

NEW AND OLD MEMBERS TO MEET

Intense interest cannot help but make itself felt when you consider that many of the men will be present to tell of the great advances that have been made in their line of work coupled with the fact that the newer members will bring with them factory practices and experience that heretofore have not been brought up before the society. The older members will want to meet these new men both to welcome them into the society and to get an interchange of ideas from a new source, while the new men will want to get the benefit of experiences and discussions held during past meetings. The interchanging of thought is becoming increasingly evident in the meetings of the American Ceramic Society. The day of real cooperation and

coordination is here. Years ago it was a very rare case where any systematic attempt was made to find out in advance what successes or failures had been made in the new proposition that a concern was about to launch. This was largely due to the fact that no information could be obtained owing to the secrecy and distrust which existed in the industry at that time. Now, however, the situation is changed and frank discussions of plant problems are evident at each meeting, the volume increasing geometrically with each succeeding assembly.

Due to the many new conditions brought on by the war, such as the lack of foreign clays formerly used by many manufacturers, need for various kinds of ceramic ware in the important war industries, and so on, the ceramists of this country have met with many perplexing problems which were only solved because of the interchange of information and advice between those who studied these problems. Thus cooperation has helped a great deal in attaining the progress which has resulted during the past few years.

There are still many improvements to be made for it can hardly be expected that in the short period of experimentation and change in method of manufacture that has thus far occurred, that the highest stage of perfection has yet been reached. Besides, the need for further development of our product there is the requisite of reducing the cost of manufacture. While the war was on, the need for many articles was so imperative that cost did not enter into the consideration. Times have changed tho, and now, since the demand is less urgent and foreign competition may become a factor, the necessity of cutting costs becomes imperative.

One of the problems which must be given great consideration and which ranks among the most important is that of burning ceramic ware. The scarcity and steadily rising cost of fuel of all kinds is stimulating interest among manufacturers in improved types of kilns and methods of combustion. According to the "Journal of the American Ceramic Society" a session will be held at which the merits of the various types of patented dryers, gas-producers, tunnel kilns and continuous kilns will be discussed from a technical and economic standpoint. This discussion should prove of great value and there is no doubt that new light will be thrown upon many features of combustion and kiln problems.

PROFESSIONAL DIVISIONS IN VIEW

Now that the Board of Trustees of the Society has affirmed the motion permitting the formation of professional divisions the way is clear for some specialization of the

various branches of the industry. This plan is beyond doubt a wise one and will do much to stimulate interest and research in these various divisions. These professional branches may be formed in the following ways:

1. "When the initiative in the formation of divisions is taken by members who are interested, a petition may be presented by not less than ten members in good standing, of whom three or more shall be active, who are interested in some phase of ceramic work sufficiently broad to warrant the formation of a special division. This petition shall go to the president who shall then appoint a representative committee to consider the advisability of forming such a division, and to proceed with the organization if the decision is favorable.

2. "When the initiative is taken by the Board of Trustees in order to stimulate growth of the Society, the President shall appoint a representative man to furnish the initiative. He shall select his own committee."

This paves the way for the formation of such divisions as on pottery, enamels, refractories, abrasives, etc., which are certainly very desirable. It is quite likely that at the coming meeting some of these branches will be launched and it will be up to the members to be on deck to see that a division which includes their product is originated.

The interest in the various society activities during the past year has not faltered one bit and all meetings were exceptionally well attended despite the war conditions. The summer meeting had a record attendance and the exhibition at the Chemical Exposition held in New York last September proved very successful. With problems of reconstruction confronting us and the unusual conditions prevailing in the ceramic industries at this time it is obvious that the 1919 convention of the American Ceramic Society is going to smash all records of attendance and importance.



Officers Elected at Chicago Meeting

The meeting held by the Chicago Section of the American Ceramic Society, at the City Club, Chicago, on Saturday, January 11, proved to be interesting as well as of good attendance. Even after the conclusion of the program the members remained a long time and gathered into small groups to discuss various matters of interest, until for some of them, it must have been necessary to make explanations to "friend wife" for being late for dinner.

A paper presented by G. G. Lawson, superintendent of the Northwestern Terra Cotta Co., Chicago, on "Production" proved to be exceedingly interesting especially at this time when such matters as were treated in this paper are of unusual interest. The cost of labor turnover, method of hiring, etc., was discussed in a very comprehensive manner. *Brick and Clay Record* hopes to publish this paper sometime in the near future.

"The Possibilities of Using Powdered Coal in the Ceramic Industries" was the title of a paper read by F. L. Steinhoff, associate editor of *Brick and Clay Record*. The paper, which was largely prepared by Lt.-Col. W. G. Wilcox, of the poisonous gas branch of the Chemical Warfare Division, gave some important data on the properties of powdered fuel and proved to be very interesting to all the members present.

A third paper was presented by C. W. Parmelee, of the department of ceramic engineering, University of Illinois. It was a talk on "Clay Mines in Tennessee and Kentucky" and was a description of what was seen during the recent trip made by Prof. Parmelee in company with several geo-

logists thru the clay regions of Tennessee, Kentucky, Illinois and Missouri.

A nominating committee was appointed by the chair which was held by I. E. Hardy, to draw up a list of nominations for the offices of the society for the coming year. The new officers of the section were elected by acclamation and are as follows: President, I. E. Hardy, Tiffany Enamel Brick Co., Momence, Ill.; vice-president, A. F. Hottinger, Northwestern Terra Cotta Co., Chicago; secretary-treasurer, H. Bellamy, Western Electric Co., Chicago; counselor C. W. Parmelee, University of Illinois, Urbana, Ill; chairman of the program committee, R. R. Danielson, Benjamin Electric Co., Des Plaines, Ill., and B. S. Radcliffe, Midland Terra Cotta Co., Chicago, as chairman of the membership committee.



Nebraska Association Meets in February

At a meeting of the convention committee of the Nebraska Brick & Tile Association recently it was decided that because of influenza conditions, the association meeting could not be held until some time in February. The committee, however, is hard at work on the program and it is believed that, when completed and presented to the members, it will prove most attractive.

B. W. Ballou, of the Kansas Buff Brick & Manufacturing Co., Buffville, Kan., who represented the Nebraska district during the war as a member of the War Service Committee on Brick, will discuss "The Open Price Exchange." One afternoon of the convention is to be devoted to a round-table discussion of production, finance and sales under the leadership of John Turner, O. P. Martin and A. H. Farrens.



A. C. Ochs, president of the A. C. Ochs Brick & Tile Co., Springfield, Minn., was a recent visitor to the editorial rooms of *Brick and Clay Record*. He reports the outlook as being very encouraging in Minnesota, both for a large sale of drain tile and building brick. Mr. Ochs, who is an active member of the Northwestern Clay Association, and one of its veteran officers, is on his way to the sunny South, where he usually spends the winter.



The matter of labor is being considered from the wage point of view, and a new working agreement between the building trades of Cincinnati, Ohio, and the members of the Building Construction Employers' Association is now in process of formation. It is believed that a complete understanding will be the outcome of the plan. Among the matters that are to be given careful consideration will be the compulsory arbitration of all disputes between the trades and the members of the association without any cessation of work. This was in vogue previous to the war conditions, and it is certain that all will be harmonious in the future. This matter of labor troubles being cast aside will be a big help toward making the future of the building industry better when the conditions in the trade right themselves and the public begins to resume its accustomed activity in this field.



The Britton Press Brick Co., Ann Arbor, Mich., has decreased its capital from \$100,000 to \$40,000.

WILL WONDERS NEVER CEASE?

Prominent Lumber Manufacturer, With a Lavish Hand, Advertises Modern Fireproof Reconstruction Hospital, Built of Brick, and Condemns "Temporary, Inflammable Frame Structures"

MANY LUMBER MANUFACTURERS are known to live in beautiful homes built with brick; it is only a few days since the writer saw a photograph of a very attractive office and entrance to the yard of a Middle West retail lumber concern built with brick; it is a matter of common knowledge that on the Pacific Coast many lumber manufacturers use "dry kilns" built of hollow clay building tile, but it remained for Edward Hines, millionaire Chicago lumber manufacturer, to cap the climax with an extended publicity campaign in which he has denounced in no uncertain terms, "temporary, inflammable frame structures."

FULL PAGE COPY

On December 24 in five of Chicago's greatest newspapers, namely, the "Tribune," "Daily News," "Evening Post," "Herald-Examiner" and "American," appeared a full page advertisement entitled, "Facts About the Speedway War Hospital." The speedway hospital story is a long one, the details of which are not of primary interest to clay products manufacturers, except that if Mr. Hines' contentions are just, the hospital which he has caused to be built should be used for the reconstruction of wounded soldiers instead of the temporary inflammable, frame structures at Fort Sheridan, north of Chicago. However, a very brief presentation of the case is essential to a complete understanding of this article.

The Government needed reconstruction hospitals. It was suggested that one be built at or near Chicago. About this point Mr. Hines became connected with the proposal and immediately lent his energy to the construction of a modern, fireproof hospital on land in which he was interested at Maywood, Ill., where there had been for some time an automobile racing speedway. The Shank Co. was engaged to erect the hospital and after numerous preliminaries the building finally got underway. While the structure was being erected, Secretary of War Baker went to Europe. Upon his return the situation became greatly changed with regard to the speedway hospital, with the result that the Government decided to abandon that project and erect temporary hospitals at Fort Sheridan on Lake Michigan, just north of Chicago. The whole matter seems to be a repudiation of Mr. Hines' efforts with the result that Mr. Hines has resorted to newspaper advertising and other publicity to bring to the attention of the public the alleged unfairness of the whole matter and to set forth the merits of the modern fireproof hospital which he has sponsored in contrast to the temporary, inflammable frame structures at Fort Sheridan.

The outcome has been one of the biggest and largest advertisements for brick that has ever been set in type, for the speedway hospital is a brick structure, altho concrete has been generously used thruout as the material for columns, floors, etc. This hospital has been practically built by one of the biggest lumber manufacturers in the country.

BRICK MEN AGREE WITH HINES

We do not know whether or not the contentions of Mr. Hines, as set forth in the page advertisement reproduced on the following page, are absolutely correct as to fact and detail. This article is not a defense of Mr. Hines any more than it is an attack upon him. It is neither. We entirely agree with him when he says, "the expenditure by the Government of \$4,000,000 for temporary, light frame hospital buildings which deservedly have been denounced as fire traps and a menace to the lives of our soldiers * * *." Also, "I do not for a moment question that the Government, in preparing its plans for temporary emergency frame hospitals at Fort Sheridan, has endeavored to do all in its power to make them safe. But I respectfully submit that no human agency can make such structures even reasonably safe. If a fire ever starts and gets any headway, nothing on earth can save the wounded boys these structures house."

Mr. Hines in his advertising also quotes Minna Ferrell Johnson, president of the Board of Managers, Chicago Woman's Club, as stating: "Upon report of our investigating committee, we protest against lack of fireproof construction of hospital buildings there." This is very fine. And that on "December 6, 1918, Congressmen Martin B. Madden, James M'Andrews, William W. Wilson, Adolph J. Sabath, John W. Rainey, Thomas J. Gallagher and James R. Mann, all of Chicago, appeared before Secretary Baker and insisted that the war department cease constructing 'temporary, inflammable frame structures' at Fort Sheridan to house our wounded boys and urged that the soldiers be placed in safe fireproof buildings." Excellent.

Mr. Hines also quotes the Chicago Association of Commerce as protesting "against the construction of such temporary hospital buildings or any part thereof, out of anything but fireproof material, and that its protest be communicated to the Secretary of War and the Surgeon General of the Army, with the request that the plans already made be so changed or modified as to provide fireproof buildings in order that the possibility of a great calamity endangering the lives of wounded men may be obviated."

and the Surgeon General.

We are reliably informed that this advertisement, a reproduction of which appears on another page, has been reprinted and thousands are being mailed all over the country.

Moreover, we understand that Mr. Hines has engaged a special advertising man, whose business it will be to give the facts in the case, and incidentally the wisdom of fire-proof construction, wide publicity. Mr. Hines has plenty

of money to spend and will undoubtedly leave no stone unturned to spread his story all over the United States.

As an epilogue, it might be stated that when the brick hospital at the speedway in Maywood, Ill., is no longer required for soldiers, Mr. Hines has offered to pay the Government \$1,300,000 for the hospital and present it to the city of Chicago as a memorial to his son, Lieut. Edward Hines, Jr., who as a soldier of the line, died in France.

MATERIAL MEN ASK BUILDING LOAN REFORM

BUILDING MATERIAL and equipment interests having taken the lending interests at their word in the matter of stabilizing prices are putting the challenge back to them to reform their methods of making mortgage loans so that building can proceed, according to The Dow Service Daily Building Reports.

When it became known to the building interests of the eastern section of the country that they could not expect construction work to proceed until they stabilized their prices and showed some real signs of cooperating with the building investor to relieve the tension incident to lack of rentable space, the American Radiator Co., dropped its price at once 25 per cent.; pipefitting interests dropped their prices 5 per cent.; soil pipe interests are contemplating a radical drop; manufacturers of porcelain knobs dropped their prices from 5 to 25 per cent.; electric conduit manufacturers will shortly announce a price drop; The American Brass Co. has showed a drop of $\frac{3}{4}$ cent a pound on weatherproof wire; friction tapes are down 2 cents a pound; and the market on wrought brass butts is off 25 per cent. Linoleums have dropped from 5 to 25 per cent. In the tool department the Ames Shovel & Tool Co. started the price dropping policy in that department by a cut that ranged around 10 to 20 per cent.

LABOR SITUATION IMPROVING

The situation with regard to labor in the New York building field is improving, the stabilized basis of 1918 instead of the sought-for 1919 base apparently proving acceptable to the men, with modifications.

These modifications having been at the behest of the leading institutions, the building interests now put the challenge back to them and ask for the release of mortgage money so that building construction can accept the new base price offered, and give the men employment. The best opinion in the trade is that the lending companies adopt the amortized mortgage system, insist upon a 25 per cent., instead of the usual 10 to 15 per cent. upset equity of the borrower, and upon a million dollar investment lend the usual 60 per cent. of value, but by applying the principle of amortization gradually reduce the amount of excess loan to meet the assured lowering of war time construction prices as the period of reconstruction unfolds itself. This would eliminate the "shoestring", it would stabilize the construction market, prevent overproduction and at the same time tend to relieve the "high cost of living" that keeps wages high. The Federal Government, backed by Secretary Wilson of the Department of Labor, is committed to a policy of liberal construction and that is understood in the trade to mean that with everything else ready for a great construction market, including general price reductions on heretofore excessively costly

equipments and materials, that money also should be made as free.

Under this plan, the borrower on a million dollar operation, three years ago, under the present permanent loan plan of making mortgage loans on buildings, would be told that altho the cost today would be a million dollars, the lender would only consider the cost equal to that of the same type of building erected five years ago, which would be around \$700,000. Therefore 60 per cent. of that cost would be \$420,000, representing a permanent loan which is seldom paid off. Under the amortization plan the loan would be made on the full value of a million dollars, which would represent a \$600,000 loan which, in the course of five years when it is expected that building costs will approximate normal, the lending interest would have his loan reduced to the basis upon which he normally would have made the engagement.

ALL CONSTRUCTION FACTORS MUST COOPERATE

Lending institutions, when asked their attitude upon this plan, which has the full endorsement of the most prominent members of the Building Trades Employers Association, most of the members of the American Institute of Architects, practically all of the building material manufacturing and distributing associations, as well as many of the most prominent building investors, returned the statement that the federal authorities expect them not to make building commitments until after the next Loan drive is over in May. Secretary Wilson at Washington, cooperating with Roger W. Babson and Franklin T. Miller, in an attempt to start at once a nation-wide building revival, replies by saying:

"Inasmuch as the building industry is regarded by many as the means of facilitating the general industrial transition to a peace basis, it should have the encouragement of all interests. . . . Public construction will be helpful in mitigating conditions, therefore it is evident that private as well as public construction must be resumed before the country returns to normal conditions. Next to placing private funds in Government securities it is desirable that they be invested in enduring wealth, like construction. The accumulated earnings of the country should not be diverted into forms of wealth easily consumed and without earning power. Permanent investments of wealth will stabilize the moral and financial conditions of the country as a whole as well as benefit the individual investors and his dependents. To bring this about all factors interested in construction must co-operate."

EASTERN BRICK SITUATION ACUTE

The need of immediate action to prevent disastrous results to a great many building material interests is best

proved by the fact that absolute strangulation of demand has already resulted in the almost complete closing down of the eastern Portland cement industry. The brick situation is so acute as to be causing much worry among manufacturers along the Raritan and Hudson Rivers, all of which plants are closed, not only for the winter, but will probably defer opening until late in the spring. Lime, plaster and other basic commodities are also closing or running at greatly reduced capacities. The price drops are frankly, merely bids for business. There may be slightly additional price modifications, they will be acts of desperation, not mere baiting of the building investor. The drop is there to be accepted. If it is not accepted, extreme scarcity of materials and equipments when the spring movement gets under way will force prices to levels that will make the present ones look puny. The market needs support. Lacking it, builders will have to take their chance on supply.

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Western Brick Co. Back to Normal

After ten months of special government service, during which over thirty million pieces of acid-proof clayware were furnished the War Department, for use in the manufacture of high explosives, the Western Brick Co., of Danville, Ill., announces that practically all of its old lines of face and common building brick, also hollow tile, will be available for shipment about January 20.

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Chicago To Spend Millions for Building

Approximately \$5,350,000 is to be spent during 1919 on the Union Station and \$2,000,000 more on other Chicago railroad improvements, according to an announcement from Commissioner of Public Works Francis on January 8, following a conference with R. H. Aishton, regional director of railroads. The commissioner said that he had been assured by the director that a budget contemplating these expenditures had been made.

Between 10,000 and 12,000 men will be employed on this work, according to an estimate of a city official. In addition, other work of a public nature will be undertaken in Chicago, all of which is more or less a result of the vigorous attitude toward the immediate prosecution of public improvements taken by United States Secretary of Labor William B. Wilson.

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Again—Thank You!

Since the publication of the list on page 1146 of the December 31 issue, *Brick and Clay Record* is in receipt of Christmas and New Year greetings from the Standard Brick Manufacturing Co., Evansville, Ind., and the Mason City (Iowa) Brick & Tile Co.; a pretty as well as handy celluloid covered blotter, from the George H. Clippert & Bro. Brick Co., Detroit, Mich., and a beautiful calendar, entitled "Golden Days," from the Tuttle Brick Co., Middletown, Conn. In "Golden Days" we have one of Thomas Moran's quiet woodland scenes, remarkable for its soft and delicate coloring and its poetic sentiment.

A very handsome, large-sized calendar has also been received from the A. P. Green Fire Brick Co., Mexico, Mo. The subject, entitled, "Cecile," is a water-color calendar reproduced from the original painting by Miss Zula Kenyon, who has painted more successful calendar

subjects than any other living artist, and is one of the most beautiful calendars it has been *Brick and Clay Record's* privilege to receive.

The Grand View Fire Clay Mines, St. Louis, Mo., have also sent one of their calendars, which contains numbers easily read clear across an office.

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Injured Superintendent Dies

Ernest E. Shumaker, superintendent of the Clarion Fire Brick Co., St. Charles, Pa., who was injured in a boiler explosion at that plant on August 22, died on December 23, at ten o'clock. He was 34 years of age. Mr. Shumaker was unconscious for three weeks following the explosion, suffering with an eight-inch fractured skull, one finger broken, right ankle crushed and bruises all over his body.

Mr. Shumaker was a very able man in clay plant superintendence and had a great deal of experience in using natural gas for burning. He contributed an article entitled, "Installing and Operating a Natural Gas Burning System," which appeared in the February 26, 1918, issue of *Brick and Clay Record*.

Services were held at the New Bethlehem (Pa.) M. E. church, Thursday, December 26, at 1:30 P. M. Interment at Blairsville, Pa. He leaves his wife, Emma Lose Shumaker, and three children.

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Plans have been made for the annual meeting of the Kentucky Clay Products Association, to be held at the Louisville Old Inn Hotel, on January 21. It is believed that a very fair attendance will be on hand at this meeting. Last year several members were unable to attend due to war orders and special rush work, but with many of the plants down for the winter there is no reason why a good crowd should not be present.

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Will P. Blair, vice president of the National Paving Brick Manufacturers' Association, Cleveland, Ohio, has returned from the meeting of war service boards held at New York City. This gathering of representatives of more than 400 different trade associations in the country unanimously passed a resolution favoring a federal highway commission for construction of a system of federal highways thruout the country, on the ground that upon improvement of highways depends largely the welfare of not only trade interests, but the welfare of the country at large. Government placing of labor, gradual placing of unused war materials on the market, and similar national welfare projects also were discussed. Charles F. Lang, of the Lakewood Engineering Co., also was a representative of the Cleveland district at the gathering.

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The second annual Ohio Road Congress is scheduled to start its sessions at Columbus, Ohio, January 14, to last for three days. The congress is the biggest thing in the campaign for better roads in the Buckeye State that has ever been held. Co-operating with the Ohio Good Roads Federation in bringing about the congress are about score of business and technical organizations, many of which will hold their annual meetings at Columbus at the same time of the congress. Fourth Assistant Postmaster General James I. Blakeslee will be one of the principal speakers on the extension of parcel post routes.

FACILITATING SEWER PIPE FACTORY MANAGEMENT

A Great Deal of Time and Thought Has Been Given to the Compilation of the Various Forms and Records Used by the Author, Who Tells How to Use Them to Advantage in Plant Superintendence

By W. B. Harris

Superintendent, Coral Ridge (Ky.) Clay Products Co.

REALIZING THAT EACH PLANT has its own individual problems to solve, the system I am about to explain to you, tho working very satisfactorily at one particular plant, possibly could not be used verbatim in any other plant in existence. However, I do contend that by following the general outline of the various reports, and by adopting some similar system of scheduling the shop runs, a decided improvement could be made in many plants.

The conditions that brought about the adoption of the daily department reports, I believe, are very nearly duplicated in almost any shop manufacturing sewer pipe and drain tile. It will be noted that these reports start with the dry pan. In some instances it might be necessary to start further back, in the process of manufacturing with the daily report card.

METHOD USED IN MAKING REPORTS

Taking up the reports in the order in which they are to be studied each day, we begin with the dry pan report. By being compelled to report each day as to the conditions of his mill, you will find that the mill receives a daily inspection, and any worn parts or defects are reported in writing to the repair man, and the report is made out in duplicate, the pan man keeping a copy. When the reports are made, the nature of same and the amount of labor are reported to the superintendent. Any old part that is replaced by new is noted, and the length of service is thus known. The advantage of this particular piece of knowledge is obvious. This same form of report is used by each man in charge of any machine. The repair man reports on all belts and shafting, and also on any machine that is not in direct charge of an operator.

You will be surprised how much can be learned from these reports, after having used them constantly for a period of three or four months.

The other questions on the dry pan report are included to cover local conditions only, and as stated in the beginning, probably would not apply in any other case.

In the wet pan report, the same questions relative to repairs and condition of mill are used. It might be well to explain the significance of the last three questions in this report.

RIGHTLY PLACING THE WORKMEN

You will note that the report calls for a statement relative to the quantity of clay fed to the mills, and whether the press was kept supplied. The last three questions give the names of all men responsible for the output of the mills, and if the report shows that there was plenty of clay in the storage

bin, and plenty of grog, the fault was with some of the three men whose names are called for, and by transferring these men to other departments, or by changing their positions at the wet mills, the trouble is soon remedied. The idea in questions of this nature is to get the right man in the right place. I never will believe in the principle of firing a man if he falls down on the first job you put him on, but shift him and see if he is not just the man you have been looking for to fill some other place. It is axiomatic to do much better work on a job to our liking than on one that is distasteful to us, and altho it is impossible to find a job for everyone around a sewer pipe factory that meets with his ideal, yet an effort can be made in that direction, and insofar as we succeed in approaching the impossible, insofar will we be blessed with contented employees.

On the press feeders report, I wish to call attention to the last question as one similar to it is found on the two reports immediately following it, viz.: the press report and the sponger's report. I do not believe there is a man living that does not like to be asked for his personal opinion on a subject, and in this case, you not only make the man feel better, but if he knows that you want from him each day his estimate of why the day's run was good or bad, he will use his head in filling out his answer to these questions.

On the press report, I wish to call attention to the question, "Did you have your regular crew?" This bears the same relation to the press crew, as the last question does to the wet pan crew. It enables you to get a line on the right man for the right place. The question immediately following this one on the press report, has been the means of bringing out some very interesting information, and in itself has made the system worth while. It might be well to add that all of these reports are put into a box conveniently located, and this box is open only to the superintendent. The reasons for this are, that oftentimes a man wishes to report some things, that were it generally known around the factory were being reported, they would lose their value, and would tend to lead the other fellow to cover up in some way, the things being reported. These reports often disclose a condition of dissatisfaction among the various departments that can be remedied before they become serious. The superintendent must use good judgment in interpreting his daily reports, and be very careful not to interpret personal enmity on the part of the one making out the report, for a desire to do better work or see better work done. The value of finding out that a state of enmity exists, is in itself worth knowing.

SHOP RUNS

Finish Saturday A.M. Run MONDAY A. M. Small Extension

12"	S.P.	-	Finish	Tue.	PM-400'	per hr-	12"	boards-	15	men-Dry	3 days	-	Draw	13 days.
10"	S.P.	-	"	"	PM-475'	"	" - 8"	"	-15	" -Dry	2 "	-	Draw	13 "
8"	S.P.	-	"	"	PM-575'	"	" - 8"	"	-15	" -Dry	2 "	-	Draw	13 "
8x13FL.		-	"	"	PM- -----		-12"	"	-15	" -Dry	2 "	-	Draw	12 "
13x13FL.		-	"	"	PM- -----		-12"	"	-15	" -Dry	2 "	-	Draw	12 "
8x8 F.L.		-	"	"	PM- -----		8"	"	-15	" -Dry	2 "	-	Draw	12 "
12"	D.T.	-	"	"	P.M. 600'	"	" -12"	"	-15	" -Dry	1 "	-	Draw	13 "
14"	D.T.	-	"	"	PM-580'	"	" -15"	"	-15	" -Dry	2 "	-	Draw	13 "
15"	D.T.	-	"	"	PM-560'	"	" -15"	"	-15	" -Dry	2 "	-	Draw	13 "
16"	D.T.	-	"	"	PM-500'	"	" -15"	"	-15	" -Dry	2 "	-	Draw	13 "

No Finishing

MONDAY P.M.

Big Extension

24"	S.P.	-	Finish	Wed.	AM-145'	per hr-	26"	boards-	15	men-Dry	5 days	-	Draw	13 days.
20"	S.P.	-	"	"	AM-210'	"	" -20"	"	-16	" -Dry	5 "	-	Draw	13 "
18"	S.P.	-	"	"	AM-260'	"	" -20"	"	-16	" -Dry	4 "	-	Draw	13 "
24"	D.T.	-	"	"	AM-330'	"	" -26"	"	-18	" -Dry	4 "	-	Draw	13 "
22"	D.T.	-	"	"	AM-300'	"	" -24"	"	-18	" -Dry	3 "	-	Draw	13 "
20"	D.T.	-	"	"	AM-325'	"	" -20"	"	-18	" -Dry	3 "	-	Draw	13 "
18"	D.T.	-	"	"	AM-375'	"	" -20"	"	-18	" -Dry	3 "	-	Draw	13 "

No Finishing

Tuesday A.M.

Big Extension

24"	S.P.	-	Finish	Wed.	AM-145'	per hr-	26"	boards-	15	men-Dry	5 days	-	Draw	13 days.
20"	S.P.	-	"	"	AM-215'	"	" -20"	"	-16	" -Dry	5 "	-	Draw	13 "
18"	S.P.	-	"	"	AM-260'	"	" -20"	"	-16	" -Dry	4 "	-	Draw	13 "
24"	D.T.	-	"	"	AM-330'	"	" -26"	"	-18	" -Dry	4 "	-	Draw	13 "
22"	D.T.	-	"	"	AM-300'	"	" -24"	"	-18	" -Dry	3 "	-	Draw	13 "
20"	D.T.	-	"	"	AM-325'	"	" -20"	"	-18	" -Dry	3 "	-	Draw	13 "
18"	D.T.	-	"	"	AM-375'	"	" -20"	"	-18	" -Dry	3 "	-	Draw	13 "

Finish Monday AM run

Tuesday P.M.

Small Extension

12"	D.T.	-	Finish	Wed.	PM-600'	per hr-	12"	boards-	15	men-Dry	1 days	-	Draw	13 days.
14"	D.T.	-	"	"	PM-580'	"	" -15"	"	-15	" -Dry	2 "	-	Draw	13 "
15"	D.T.	-	"	"	PM-560'	"	" -15"	"	-15	" -Dry	2 "	-	Draw	13 "
16"	D.T.	-	"	"	PM-500'	"	" -15"	"	-15	" -Dry	2 "	-	Draw	13 "

Finish Monday PM run

Wednesday A.M.

Small Extension

4"	D.T.	-	not finished		-2200'	per hr-	no	boards-	13	men-Dry	1 days	-	Draw	13 days.
6"	D.T.	-	"	"	-2500'	"	" - no	"	-13	" -Dry	2 "	-	Draw	13 "
8"	D.T.	-	"	"	- 975'	"	" - no	"	-15	" -Dry	2 "	-	Draw	13 "
10"	D.T.	-	"	"	- 685'	"	" - 8"	"	-15	" -Dry	1 "	-	Draw	13 "
9"	W WC.	-	"	"	- -----		- 8"	"	-15	" -Dry	2 "	-	Draw	13 "
13"	W.C.	-	"	"	- -----		-15"	"	-15	" -Dry	2 "	-	Draw	13 "
3"	S.P.	-	Fin. as made		- 900'	"	" - no	"	-15	" -Dry	2 "	-	Draw	13 "
4"	S.P.	-	"	"	- 950'	"	" - no	"	-15	" -Dry	2 "	-	Draw	13 "

Finish Tuesday P.M. run

Wednesday P.M.

Big Extension

26"	D.T.	-	not finished		- 185'	per hr-	26"	boards-	15	men-Dry	4 days	-	Draw	13 days.
28"	D.T.	-	"	"	- 175'	"	" -30"	"	-15	" -Dry	5 "	-	Draw	13 "
30"	D.T.	-	"	"	- 160'	"	" -30"	"	-19	" -Dry	5 "	-	Draw	13 "
32"	D.T.	-	"	"	- 145'	"	" -34"	"	-19	" -Dry	6 "	-	Draw	13 "
34"	D.T.	-	"	"	- 125'	"	" -36"	"	-15	" -Dry	6 "	-	Draw	13 "
36"	D.T.	-	"	"	- 95'	"	" -36"	"	-15	" -Dry	7 "	-	Draw	13 "

It Has Been Found That By Arranging a Shop Schedule, Similar to the One Shown Here, the Foreman is Enabled to Plan Ahead on His Daily Work and This Facilitates the Smooth Running of the Shop.

<u>Finish Tuesday AM run</u>			Thursday A.M.	<u>Big Extension</u>		
18" W.C.	- not finished	-	-20" boards	-15 men	-Dry 3 days	- Draw 13 days.
26" D.T.	- " "	- 185' per hr	-26" "	-15 " "	-Dry 4 "	- Draw 13 "
28" D.T.	- " "	- 175' " "	-30" "	-15 " "	-Dry 5 "	- Draw 13 "
30" D.T.	- " "	- 160' " "	-30" "	-19 " "	-Dry 5 "	- Draw 13 "
32" D.T.	- " "	- 145' " "	-34" "	-19 " "	-Dry 6 "	- Draw 13 "
34" D.T.	- " "	- 125' " "	-36" "	-19 " "	-Dry 6 "	- Draw 13 "
36" D.T.	- " "	- 95' " "	-36" "	-15 " "	-Dry 7 "	- Draw 13 "
18x18 F.L.						
13x18 F.L.						

<u>No Finishing</u>			Thursday P.M.	<u>Small Extension</u>		
6" S.P.	- Finish Fri. AM	- 820' per hr	-no boards	-15 men	-Dry 2 days	- Draw 13 days.
4" S.P.	- " as made	- 950' " "	-no " "	-15 " "	-Dry 2 "	- Draw 13 "
3" S.P.	- " " "	- 900' " "	-no " "	-15 " "	-Dry 2 "	- Draw 13 "
8x8 F.L.	- " Friday AM	-----	-10" "	-15 " "	-Dry 2 "	- Draw 12 "
8x13 F.L.	- " " AM	-----	-12" "	-15 " "	-Dry 2 "	- Draw 12 "
13x13 F.L.	- " " AM	-----	-12" "	-15 " "	-Dry 2 "	- Draw 12 "

Finish 6" Sewer pipe if made yesterday. Friday A.M. Small Extension

15" S.P.	- Finish Sat. PM	- 340' per hr	-15" boards	-17 men	-Dry 4 days	- Draw 13 days.
12" S.P.	- " " PM	- 400' " "	-12" "	-15 " "	-Dry 4 "	- Draw 13 "
10" S.P.	- " " PM	- 475' " "	-10" "	-15 " "	-Dry 3 "	- Draw 13 "
8" S.P.	- " " PM	- 575' " "	-10" "	-15 " "	-Dry 3 "	- Draw 13 "
8x8 F.L.	- " " PM	-----	-10" "	-15 " "	-Dry 3 "	- Draw 12 "
8x13 F.L.	- " " PM	-----	-12" "	-15 " "	-Dry 3 "	- Draw 12 "
13x13 F.L.	- " " PM	-----	-12" "	-15 " "	-Dry 2 "	- Draw 12 "

<u>No Finishing</u>			Friday P.M.	<u>Big Extension</u>		
18" W.C.	- not finished	-	-20" boards	-15 men	-Dry 3 days	- Draw 13 days.
26" D.T.	- " "	- 185' per hr	-26" "	-15 " "	-Dry 4 "	- Draw 13 "
28" D.T.	- " "	- 175' " "	-30" "	-15 " "	-Dry 5 "	- Draw 13 "
30" D.T.	- " "	- 160' " "	-30" "	-19 " "	-Dry 5 "	- Draw 13 "
32" D.T.	- " "	- 145' " "	-34" "	-19 " "	-Dry 5 "	- Draw 13 "
34" D.T.	- " "	- 125' " "	-36" "	-19 " "	-Dry 6 "	- Draw 13 "
36" D.T.	- " "	- 95' " "	-36" "	-15 " "	-Dry 7 "	- Draw 13 "

<u>No Finishing</u>			Saturday A.M.	<u>Big Extension</u>		
18" S.P.	- Finish Mon. AM	- 260' per hr	-20" boards	-16 men	-Dry 4 days	- Draw 13 days.
20" S.P.	- " " AM	- 210' " "	-20" "	-16 " "	-Dry 5 "	- Draw 13 "
24" S.P.	- " " AM	- 145' " "	-26" "	-15 " "	-Dry 5 "	- Draw 13 "
18" D.T.	- " " AM	- 375' " "	-20" "	-18 " "	-Dry 3 "	- Draw 13 "
20" D.T.	- " " AM	- 325' " "	-20" "	-18 " "	-Dry 3 "	- Draw 13 "
22" D.T.	- " " AM	- 300' " "	-24" "	-18 " "	-Dry 3 "	- Draw 13 "
24" D.T.	- " " AM	- 330' " "	-26" "	-18 " "	-Dry 4 "	- Draw 13 "

<u>Finish Friday A.M. run</u>			Saturday P.M.	<u>Small Extension</u>		
4" D.T.	- not finish	- 2200' per hr	-no boards	-13 men	-Dry 1 days	- Draw 13 days.
6" D.T.	- " "	- 2500' " "	-no " "	-13 " "	-Dry 2 days	- Draw 13 "
8" D.T.	- " "	- 975' " "	-no " "	-15 " "	-Dry 2 "	- Draw 13 "
10" D.T.	- " "	- 685' " "	-8" "	-15 " "	-Dry 1 "	- Draw 13 "
9" W.C.	- " "	-----	8" "	-15 " "	-Dry 2 "	- Draw 13 "
13" W.C.	- " "	-----	-12" "	-15 " "	-Dry 2 "	- Draw 13 "

In Order to Follow This Plan Out, it is Essential That the Salesmanager or Superintendent, or Whoever it is That Determines What Ware is to Be Made, be Guided by This Schedule Insofar as is Possible.

These Cards Which Measure $4\frac{3}{8}$ by $8\frac{7}{8}$ Inches, Can Be Printed at a Very Nominal Cost and Will be the Source of a Wealth of Important Information; They Will Also Tend to Keep the Men "On Their Toes."

PERSONAL OPINIONS VALUED

The sponger's report is made out by the man finishing sockets as the pipes come from the press. No comment is necessary on this report, only perhaps to call attention to the

BURN NO. 216

KILN 6 SET 4/15/18 DRAWN 4/28 TONS DRN 68 NO 192 NO 1 AMT COAL 234

COOLING MOVES		COOLING CONDITIONS	
1	SUN N	1	Light W
2	MON D	2	" NW
3	" N	3	" SW
4	TUE D	4	Stiff NW
5	" N	5	Light NE
6	WED D	6	Stiff NW
7	" N	7	Light E
8	THU D	8	Stiff E
9	" N	9	Light E
10	FRI D	10	Light E
11	" N	11	" E
12	SAT D	12	" E
13	" N	13	" SW
14	SUN D	14	
15	" N	15	
16	MON D	16	

Start Hall 8:30 a.m. Temp. 2000°
 Disinfect Salt 11:00 a.m. Temp. 2035°
 Cures at 02
 No Salts 2
 Trials good

Closed openings $\frac{1}{2}$ in. pyrometer pocket.

UNITS	Size	Foot No. Down	A C	F C	SLAB	D Brak	S Brak	Blower	Light	One Round	Couch	Rail
AND FOLD DOWN	6 10 SP 13 WC	162 143 246		34		2 1				1		
AND FOLD OUT	20 16	95 137	7	3 3								
ELLING	12 18 10 6 SP	83 102 214 72				2 2 1 1						
DOWN	4 SP	235						3	4	7		
									15			

This Shows One Side of the Burner's Report Card Which Gives the Information Concerning the Condition of the Ware Drawn from and Set Into the Kiln.

last question in which his opinion relative to the day's work is quoted. You might be wondering what constitutes a day's work, or rather the standard day's work, but further on in the article you will find that the shop running schedule gives the standard day's run for each size pipe or tile.

The first question on the setter's report asks for his reasons why the kiln is above or below standard, the standard being 64 tons for 28-foot kiln, 84 tons for a 32-foot kiln, and 120 tons for a 36-foot kiln. By the setter's answers to these questions the superintendent is soon enabled to form a correct opinion of the setter's judgment as to the amount of ware he is putting into the kiln.

I wish here, to call your attention to the kiln drawing report which is included in the burning report. You will note that the kiln as drawn is divided into four divisions: (1) Pockets and fire ring, or the ware set between bag walls, and that set in the first circle. (2) Body and back out. (3) Filling, which includes filling used in all ware set, regardless of its position in the kiln. (4) Holes or the spaces between stands of ware.

Now the setter's report is made out in much the same manner, the only exception being that he uses no printed form, and he designates the size filling used in each of the four divisions. By this means, we can soon determine the kind of setting that produces the largest tonnage with the best results. The results of the kiln set are reported in the columns to the right of the four sub-divisions on the burning card, and are filled in by the checker when the kiln is drawn. First column is the size of the ware; second, is the total number of pieces drawn; third, total number of pieces air checked; fourth, total number of pieces fire cracked; fifth, total number of pieces slabbed; sixth, total number of pieces broken by kiln drawers; seventh, is total number of pieces broken by setters; eighth, total number of pieces

blistered; ninth, total number of pieces too light or deficient in glaze; tenth, total number of pieces not true to circle; eleventh, total number of pieces too crooked; twelfth, total number of pieces too rough. I think the value of this information coming from each kiln set and drawn is readily seen. All other questions on setters' reports are to cover local conditions. We know what information we want relative to each department, and all questions that are not explained in this circle, are for the purpose of getting at this information.

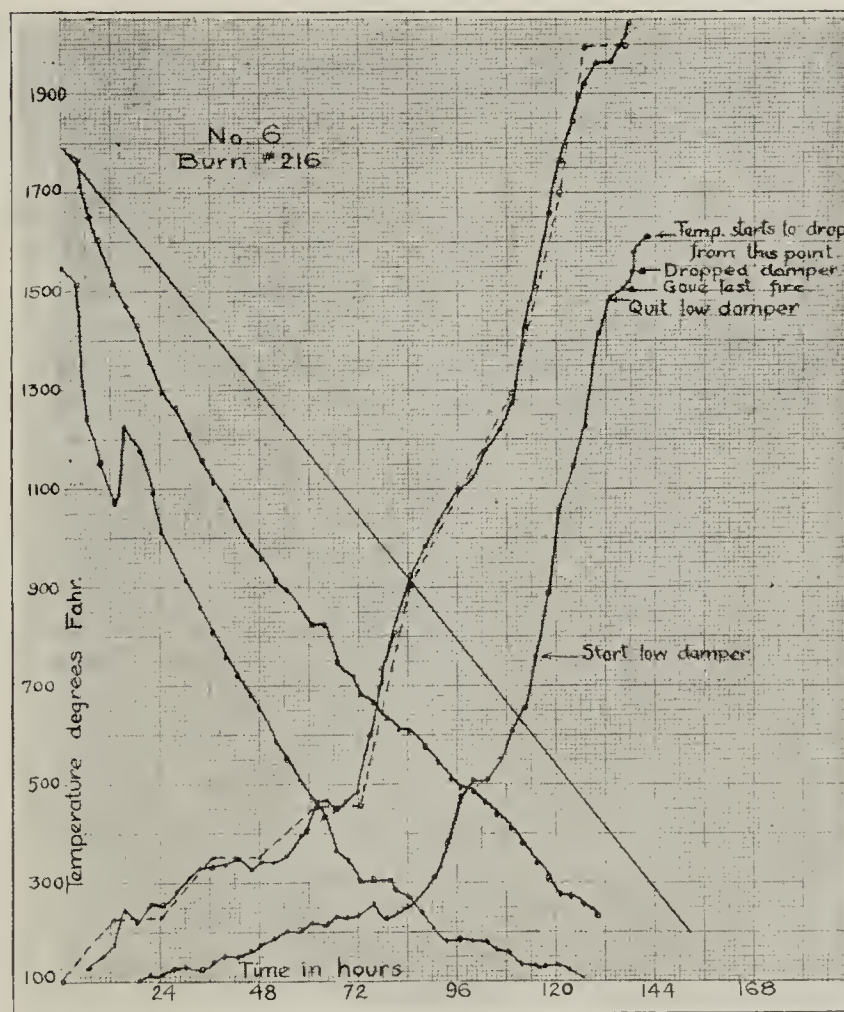
The burner has two reports, one a record of the burning operations, the other a report on the kiln finished the day the report is made out and the kiln set. The latter report is to enable the superintendent to obtain an indisputable record of the burner's judgment.

When a kiln of ware is drawn, it is an easy matter for the burner to say that certain defects were noted on the pipe by him, when they were set, that the pipe with too little glaze were so on account of too tight setting, that slabbed pipe were too green when set, that pipe were out of round, or crooked when they went in, etc. On this report you have his comments the days the kiln is set, and the results when drawn can be compared. You also get his opinion of the appearance of the ware in the kiln finished by him on the day the report was made out.

In the report of the floor boss, it will be noted that most questions are for the purpose of finding out if the different departments under him have their regular crews. This is done for the same reasons as on the wet pan report, viz: to find out by comparison whether by shifting men to different places has a plus or minus effect on work accomplished.

BIG LOSS IN ENGINE ROOM BY SHUT-DOWNS

On the engineer's report, it will surprise most superintendents to find how much time is lost by shut-downs in



This is the Other Side of the Burner's Report Card and Shows a Record of the Burning and Cooling Conditions Both in the Top and Bottom of the Kiln.

the engine room. By signal stops are meant those that are given from the factory to the engine room, and are of course

no fault of the engineer, but any other stop is due to engine trouble, no steam or some part of the power plant under the engineer's care.

The report of the burner, or the record of the burn, is in some respects, applicable to any plant, but the two headings "cooling moves" and "cooling conditions" were included to try and locate a bad case of air checking at one particular plant, and accomplished its purpose. It would be too long a story, tho very interesting, to include in this article.

On the reverse side of the burning record, a sheet of co-ordinate paper is pasted, and on it are plotted both the burning and cooling curves, both top and bottom. By arranging

NO

REPORT OF FLOOR BOSS

DATE

Did Press have its reg. crew	What time did press start	a. m.	p. m.
Tell what changes were made in crew	Tonnage a. m.		p. m.

Did you have Regular Sponger .
Did Finishers have Regular Crew

What changes were made

Give Below the Time Finishers Start to Finish a Run and Time Finished, also Size of Tile Finished

Give Dates the Finishers Work Was Made

Who Were Truckers at Press
Turners at Press

Bat Board Man at Press

Socket Board Man

Greaser at Press

Feeder

Did You Have any Complaints From Any of Your Crews, and What Was the Complaint

Were the Complaints Justified

Did Dry Pan Have Reg. Crew

Did Wet Pan

Report of the Floor Boss, the Questions on Which Give the Information Which Aids in Finding the Right Place for Each Man.

a shop schedule, similar to the one given here, it enables the foreman to plan ahead on his daily work, but in order to follow this plan out, it is necessary for the salesman or superintendent, or whoever it is that determines what ware is to be made, to be guided by this schedule insofar as is possible. For instance, Monday, A. M., the factory can run on 12 in., 10 in., 8 in. sewer pipe, 8 in. by 13 in., 13 in. by 13 in., 8 in., by 8 in. flue lining, 12 in., 14 in., 15 in. and 16 in. drain tile. Any one of these sizes will be ready to finish on Tuesday P. M. Suppose we make 12 in. sewer pipe; they finished Tuesday, P. M. The standard run is 400 per hour, they go on 12 in. boards; it requires 15 men in the shop to make them; it takes three days to dry them, and in thirteen days they will draw, as stated at the beginning of this article.

SPECIAL SCHEDULE MAY BE WORKED OUT

This plan of scheduling the shop was done to fit local conditions, but the same general plan can be followed out, or rather worked out at any other plant, making a similar line of ware. It requires more men to manufacture sewer pipe than drain tile, and this plan gives the entire finishing crew on all sewer pipe, from 18 inch up to 24 inch, to the press crew, as there is no ware to be finished on these days.

No amount of persuasion could induce the press crew to change the big extension at night, this operation being necessary for us to make any size pipe or tile above 16 inch,

so all extension changes are made at noon. The ware that requires finishing and the ware that does not are so distributed that at no one time is the finishing crew crowded with work, or at another time dodging the boss.

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One of California's Large Industries

The plant of the Los Angeles Pressed Brick Co., at Alberhill in Riverside County, Cal., has furnished the impetus for one of the fastest growing industries in that section of the country. The organization there employs a hundred men, and is considered one of the most complete plants owned by this company. The Alberhill Coal & Clay Co., which owns the mountain of clay deposits, ships about 5,000 cars per year to many western plants. Both companies have combined their interests to the extent of a community village, with buildings for the operatives of the two concerns. The Los Angeles Pressed Brick Co. produces three principal products; fire brick, face brick and hollow tile. The clay for these products is purchased from the Alberhill Coal & Clay Co., and the finished material of the plant totals 200 tons per day. Clay is also shipped to the other three plants of the Los Angeles Pressed Brick Co., at Los Angeles, Santa Monica and Point Richmond, all in California. The plant turns out 50,000 brick a day and it has been running to full capacity on war orders, including hollow tile for cantonment buildings in Texas and for the shipbuilding at San Pedro. While there are nine kilns in operation at the present time, it is the intention of the company to have twenty kilns when the plant is completed. Howard Frost is president of the company; H. E. Potter, secretary, and Gus Larson, inventor of "Larsonite," the floating brick, is the general manager.

The Alberhill Coal & Clay Co. has been established for a much longer period of time than the brick concern and at the present time over 60 men are mining clay at the deposits there. The raw product is shipped to the Pacific Sewer Pipe Co., the St. Louis Fire Brick Co., the Bowery Pottery Co., the Collai & Myers Pottery Co., the Southern California Clay Products Co., and other smaller concerns. Eighteen different kinds of clay are produced at the plant. The Alberhill manager is D. S. Lien. It is stated that close to 5,000 cars of material were shipped out of Alberhill in 1918. James Hill, of South Pasadena, is president of the company and the secretary is George Hill, of the same place.

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Brick Rates Protested in Arkansas

Representative brick men of Arkansas met with the Arkansas Railroad Commission on January 2 to protest against the increase on brick rates, the same having practically increased 100 per cent. on their commodity. The representatives of the Arkansas Brick Makers' Association will file a protest in Washington declaring that the rate is a practical prohibition of their business. Those present at the conference were N. P. O'Neil, of Hope, president of the association; T. B. Weaver, of the Burke Brick Co., Fort Smith; Wallace Dickinson, of Little Rock, and E. C. Stuck, of Jonesboro.

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The output of magnesite in California and Washington has decreased greatly since the close of the war. The total output for the two states this year is about 225,000 tons, while in 1917 California produced 211,000 tons and Washington 105,000 tons.

“UNCLE SAM” *to* ADVERTISE *to* PROMOTE BUILDING

Department of Labor Creates New Bureau to Stimulate Construction Operations, Thus Providing Employment for Returning Labor—Conservation Section and Resources and Conversion Section of War Industries Board to Become Permanent Institution—“Guaranteed Standards in Industry” Now Under Consideration for Adoption—All of Tremendous Interest to Clay Products Industry

By Waldon Fawcett

WHATEVER MAY BE SAID of the things that the United States Government had to do to the clay products industry as a means of bringing about concentration of resources and energy for winning the war, there is no question but what Uncle Sam is now bent on making amends. It is not, of course, a guilty conscience that has made your Uncle put his shoulder to the wheel so wholeheartedly, this past few weeks, in behalf of “Business as Usual” in the clay products field. For the matter of that, there were any number of other industries that were just as hard hit by the war. Rather it is a case where the Government realizes that the solution of the labor problem and the maintenance of national prosperity depends largely upon the consumption of brick and other clay products.

One of the most practical moves and likewise one of the latest that signify governmental solicitude for the industry is found in the creation at Washington of a new division or bureau of the U. S. Department of Labor for the encouragement of building operations thruout the country. As may be surmised from its affiliation the purpose of this new cog in the federal machine is to provide employment for labor in the building trades. However, it is obvious that anything that speeds up building operations, whatever the animus, is bound to aid in setting things in motion in the clay products field.

“FULL SPEED AHEAD” IN BUILDING FIELDS

Not the least valuable aspect of this injection of federal support for the “Build Now” movement is a sentimental one—namely that it gives Uncle Sam’s backing and endorsement to a movement that has undeniably received a slight check due to a temporary hesitancy on the part of the public. It matters not whether the governmental support is interpreted as assurance that prospective investors need not anticipate lower prices and might as well build now, or whether it is taken at its face value as an appeal to be patriotic and public-spirited and go ahead with any contemplated building operations for the sake of national content and prosperity. Whatever the logic that may appeal, it is patent that if the American public yields to the plea to give the order “Full Speed Ahead” in the construction field it will mean business for all classes of building material but especially for those classes that have fire-proof or fire-resistant qualities.

It must not be supposed that Uncle Sam in his new role of building booster and encourager of highway construction—for this latter is hooked up with the former—is confining himself to what is known as propaganda in behalf of quickened activity. A nation-wide advertising campaign, via trade associations, to encourage new construction is part of the plan but the program also embodies practical features of value. For example, it having been ascertained that many interests that have construction work in contemplation are holding back because of the difficulties of excavation processes in the winter months, effort is being made to persuade them that such postponement is not necessary nor wise. Especially is this campaign in behalf of a flying start in building operations directed at those sections of the country which are enjoying an open winter.

BOARD MAINTAINS TWO CONSTRUCTIVE ELEMENTS

Another fresh evidence of the boosting policy that Uncle Sam has adopted with respect to the brick and clay products industry is seen in the arrangement whereby there has been saved from the wreck of the War Industries Board the two sections of that gigantic war organization that, next to the building materials division, came closest to the interests of brick and clay men and that hold certainly the greatest possibilities for permanent aid to the industry. The Conservation Section and the Resources and Conversion Section are the two branches that will become permanent institutions under the Government, President Wilson having made an allowance of \$100,000 out of his special fund to insure their continuance for the time being.

Both of these constructive elements in the federal organization will come under the jurisdiction of the Department of Commerce. The Conservation Section will concern itself, much as it did in war time, with economies of production, the elimination of odd sizes, superfluous models or patterns and slow-moving lines. The evil of cancellation of orders will be attacked and likewise the wasteful practice of the return of goods from dealers to producers. However, it cannot be emphasized too strongly that there will be nothing mandatory or compulsory in all this. The Government’s conservation annex will not butt-in on affairs of any industry. It will give advice only when asked but it will make expert counsel available free

of charge to any industrial interest that desires assistance to discover "leaks" or aid to work out problems of its own finding.

The Resources and Conversion Section which is predicted will ultimately develop into one of the most important bureaus under the Government has all along had the sympathetic interest of many men in the clay products industry because its management was largely in the hands of leading representatives of the industry who temporarily abandoned their own affairs in Ohio to take up work at Washington as war volunteers or dollar-a-year men. During the war it was the "conversion" end of this proposition that interested the clay products industry—the means that could be found by the institution at war headquarters to assist clay products plants to shift to war-time production of one kind or another as a means of remaining on the business map. Now that this enterprise is to be taken over by Uncle Sam as a peace-time service it is apparent that it is the "resources" angle that will be to the fore.

This renders the significance of the new turn of affairs all the deeper because no industry so largely dependent as is the clay products line upon natural resources can be indifferent to whatever concerns its sources of supply. As a matter of fact, clay products men have for this very reason an unusual interest in a number of post-war legislative propositions that Congress has before it. For example the Water Power Bill, so called, will be found to have a string to it that leads straight to the clay product's industry. Then again clay products men are bound to keep a weather eye on the contemplated revision of the Leasing Act and other measures that were passed as war-time expedients for encouraging the development of mineral resources, etc. but which are now pronounced unworkable and will have to be "done over".

RESERVE STOCKS TO BE GUARDED

To get back to the subject of our transplanted Resources and Conversion Section, it may be said that one of its immediate and most important tasks will be to see to it that American markets are not swept bare of needed raw materials by Old World consumers who are hungry for anything and everything that enters into new construction. Altho the Resources Section has no more than commenced to function as a mainspring of the new "industrial co-operation" service of the Department of Commerce there has already come from the department a warning to American manufacturers not to be stampeded into selling, without careful deliberation, any reserve stocks of raw materials of which they may find themselves possessed.

According to information reaching Washington, the producers who are parting with their surplus material are doing so not because they do not believe in its ultimate usefulness to them nor yet out of fear that there will be depreciation of the value of this material. Rather are they letting the material go, Washington is told, because they desire to restore cash balances that have been depleted by the purchase of Liberty Bonds, the payment of war taxes, etc. Recognizing all the force of the argument for a bulwark of quick assets in an era of readjustment, the specialists at the Department of Commerce nevertheless insist that the manufacturer who parts in haste with his surplus of raw material is liable to repent at leisure. It is insisted that for years to come there is bound to be a world-wide shortage of basic raw materials and that consequently no business man, even tho overstocked,

should at this time sacrifice his holdings unless he knows where more can be obtained when needed.

While in none of the work that it has taken over from the War Industries Board will the Department of Commerce, as has been explained, show any disposition to crowd the clay products industry or give advice uninvited, this department has on the cards one innovation that if adopted by any producers of clay products will likely find adoption more or less generally. I refer to the scheme for what are known as "guaranteed standards in industry" a project that is actively sponsored by Secretary of Commerce Redfield.

CERTIFICATION A LARGE BENEFIT

The plan is to make it possible for the maker of any standard commodity such as brick or tile to submit at Washington a specimen of his product for examination. After such examination had been duly conducted at the National Bureau of Standards the Department of Commerce would certify to the facts that a buyer, domestic or foreign, would want to know or ought to know regarding the article. The manufacturer would be permitted to attach a copy of the certificate to all of his production of the particular kind and quality so certified, thereby gaining the benefit of what might be accounted a governmental guarantee—something that would be most valuable (and would prevent many minor misunderstandings) in supplying clay products for public improvements in all parts of the country.

It is not intended that certification would ever be compulsory on the part of the Government but on the other hand a manufacturer would get into trouble if he attached Uncle Sam's certificate to any goods that did not come up to the certified sample. The whole procedure would be voluntary action on the part of a manufacturer but inasmuch as lack of confidence in goods has been one of the recognized obstacles to trade expansion it seems that many sellers will be prone to welcome with open arms a federal instrumentality that would provide authoritative knowledge to all buyers concerning the materials bought. However, special legislation will be required to put over this project so that its benefits cannot, in any event, be grasped immediately.

UNCLE SAM NOW TESTING TERRA COTTA

Speaking of the submission of samples to Uncle Sam for the sake of obtaining his opinion it may be of interest to mention that a large majority of the manufacturers of architectural terra cotta have during recent months submitted samples of their product for the determination of the general physical properties. These samples were in the form of a specially made open box and also in the form of pieces left over from structures built by the manufacturers. This decorative building material was tested for strength in compression and ability to withstand both natural and artificial freezing. It was gratifying to find by the compression tests that practically all of the pieces were able to withstand stresses greater than those which would be imposed upon them in structures. However, before the tests can be accounted complete, further work will be necessary, especially in investigating the burning of the clays used.



In connection with clay investigations of the Columbus, Ohio station, A. S. Watts has undertaken a survey of domestic deposits of high grade clay, with reference to co-operation with the United States Geological Survey and the various State geologists.

ANALYSIS of POWER CONSUMPTION STATISTICS

This Article Takes the Figures Prepared by the Government and Shows How to Interpret Them and How to Check Up Your Own Power Consumption

ACCORDING TO STATISTICS reported by "Power," during the year 1914 in which the war started, American industry was using 22,547,547 horsepower in the form of primary power, and it spent the enormous sum of \$666,406,709 for fuel and rent of power. It must be suspected that much of that power might have been saved. The necessity for saving has come and the time has arrived when the industrial-power consumer should check his power consumption and see whether he is not using too much.

Power is produced by two different agencies. The first and most active of these is private generation by steam, water, or internal-combustion engines. Of the 22,000,000 primary horsepower employed by industry during the year 1914, over 18,500,000 horsepower, or 82 per cent., was produced in this way. The remainder consisted of power rented by the consumers; and 3,917,655 horsepower of rented power was electrical and was supplied presumably by central stations.

Unfortunately, our knowledge as to what should constitute the normal consumption of power in any industry is still very meager. Industry in the United States until recently has been very little troubled with the necessity of looking out for the savings of cents. Everything has been handled on a large scale, and with the wealth of the country rapidly growing the loss of a few paltry horsepower has not been considered vital. Estimates as to what constitutes a safe limit of power for certain industries have not yet been made. As a result, there are enormous differences in the power consumption of factories making identical products and working under practically similar conditions. It is with the intention of supplying a basis for such estimates that the following remarks and a statistical table of a few of our national industries are offered.

The table is based on the principle that every factory producing a certain article must use a given quantity of

power which should be uniform in every locality according to the size of the factory and the character of its production. The difficulty is to find a corresponding unit by which the power unit can be measured. In this instance man power is used for that purpose. Whatever may be the character of the machinery employed, there must go with every machine a certain complement of human labor which will remain approximately the same thru the industry. A shoe factory is built to produce a certain quantity of boots and shoes by employing a certain quantity of labor, which means that if one hundred men are employed, a corresponding floor space must be allowed for each employe, and sufficient machinery must be installed. Each machine in turn requires the attendance of a certain number of men. The number of employes, therefore, forms the safest unit for measuring the power requirements of a factory.

The figures used in this comparison are those of the census of 1914, which year is the last when conditions in the national industry were approaching normal, and it is, of course, normal conditions that must be dealt with. The results of the research are in no way affected thereby, as any changes that have taken place since 1914 in the employment of labor in individual industries cannot much affect the proportional power requirements of each.

LARGE VARIATION IN PRIMARY POWER

The first column of the statistical table contains the number of hands employed in each of the represented industries during the year of the last census. This is the unit of man power. The second column shows the primary horsepower for each industry, the all electrical used, and the fourth that part of the electrical power consumed by the industry which is not produced by the consumer, but rented from some other source, presumably a central station. In the fifth column the average primary power per employe in each industry is given. As will be seen,

INDUSTRIES	No. of Wage Earners	Total primary Power Horsepower	Electrical Power		Total Power Per Wage earner		%Ratio of Elect. to Primary	% Elect Power Rented	H. P. per 1000 of PRODUCT
			Total Horsepower	Rented Horsepower	Primary	Elect.			
AUTOMOBILE BODIES	127,092	173,684	135,818	102,156	1.4	1.0	78	75	0.26
BOOTS AND SHOES	206,088	112,929	61,657	37,389	0.5	0.3	54	60	0.19
CEMENTS	27,916	490,402	336,516	164,369	17.5	12.0	68	49	4.81
FLOUR AND GRIST MILLS	39,718	822,384	150,248	112,411	20.7	3.7	18	74	0.93
FOOD PREPARATIONS	20,306	80,022	47,761	34,347	3.9	2.3	59	71	0.36
GLASS	74,502	163,139	92,896	14,224	2.1	1.2	56	15	1.33
ICE	23,011	461,988	50,546	28,991	20.0	2.2	11	57	7.64
IRON AND STEEL	29,356	1,222,273	212,582	21,601	41.6	7.2	2	10	3.84
LIME	12,429	39,134	12,851	11,253	3.1	1.0	32	87	2.12
LUMBER PRODUCTS	618,163	2,796,902	305,540	149,152	4.5	0.5	11	48	2.78
PAVING MATERIALS	19,540	138,026	52,819	46,604	7.1	2.7	38	88	3.58
BRICK, TILE, POTTERY	127,444	470,758	95,080	68,638	3.8	0.7	20	72	2.53

this varies a good deal in the different industries. The greatest amount of power in proportion to human power is employed in the blast furnaces of the iron and steel industry, in which 41.6 horsepower is needed for each employed man.

The power economist will argue with some reason that this national average of power consumption most certainly is exceeded in many instances and that consequently there must be many factories that run with a power consumption much below the national average. Except in unusual cases, therefore, a factory running with a power consumption approaching the national average of its industry is not doing anything extraordinary. It does not conserve power and most likely it does not even run economically. In fact, wherever an experiment shows that the factory requires for its operation a power development the same as the national average, or at least approaching it, there seems to be cause for an overhauling of the power facilities with a view to finding out whether savings can be made by changing the installation. There is today in the United States no industry that does not make use of electrical power in one way or another. As shown in the sixth and seventh columns of the statistical table, the extent of this use varies a good deal according to the industry. In this respect the cement industry leads the country as an employer of electrical energy, consuming twelve horsepower per man.

USE OF CENTRAL STATION POWER

Whether preference is given to the employment of electrical power depends most likely on local conditions. There are certain industries that use a larger proportion of electrical motive power than others; but it is not always clear whether this is due to greater advantages of electrical power in that particular industry or to location of the industry where electrical power can be easily obtained. Not all the large consumers of electrical power are necessarily large customers for the central station. During 1914, in fact, 20 per cent. of all the electrical power used in the national industry was produced by the consumer. There are, however, industries that for certain reasons have always given preference to the employment of power rented from the central station. On the other hand, those industries that need most power for their production and that are making good use of elec-

trical power are buying only a small part of their total requirements from the central station and are inclined to generate their own electrical energy by other means.

The expense bill for national industrial production is made up of three big items—cost of raw material, wages, and cost of power. Of the total cost of production, 3.2 per cent. is chargeable to fuel and power. Under these circumstances it is of some interest to see how far the question of power consumption enters into the cost of production in several of the leading industries, or in other words, how much horsepower is required in each instance to produce a certain quantity of goods manufactured by that industry. The ice industry shows the largest application of power in comparison with the value of manufacture, as it has to employ 7.6 horsepower to produce ice of a value of \$1,000. Next in importance is the paper and pulp industry, which needs 4.88 horsepower of primary power for the production of each \$1,000 unit. Third stands the cement industry, with a power consumption of 4.81 horsepower per each \$1,000 produced. Also the iron industry needs much power per \$1,000 unit of productive value. Much power also is needed in the lumber industry, where 2.78 horsepower is used per \$1,000 production.

It remains to be seen how the statistics of the table can best be made use of by the power consumer. The principal purpose for which this was prepared is that of checking power consumption in factories. For this purpose the fifth column will be put to use. By multiplying the value in that column by the number of wage earners employed in the factory desiring to make the test, a figure will be obtained showing what the power development of that factory should be on the basis of an average national power consumption. However, it should not be assumed immediately that power is actually wasted in the plant if the example shows a larger power consumption than that indicated by the national average, but an investigation into the power conditions in the plant should be made with a view to check over-application of power, should this exist. It is unfortunate that the pottery industries are not separated from the cruder clay products industries for there is considerable difference in the power requirements of these two branches. However, a fair indication of what the power used by a clay plant is, can be obtained by referring to this table.

READJUSTMENT CONFERENCE *held* by MANUFACTURERS COUNCIL *of* NEW JERSEY

A SPECIAL MEETING of the Manufacturers' Council of New Jersey, called by President Warren C. King, was held at the Robert Treat Hotel, Newark, N. J., on Wednesday, December 11, with afternoon and morning sessions. This gathering, known as a readjustment convention, brought together about 300 leading business men from all parts of the state, and prominent among them a number of well-known figures in the brick, clay and affiliated industries; Charles A. Bloomfield, head of the Bloomfield Clay Co., Metuchen; Abel Hansen, president of the Fords Porcelain Works, Perth Amboy, and numerous others from the Raritan River clay district, were in attendance.

The meeting was called to order at about 10:30 with Mr. King in the chair. In his opening remarks, he pointed out

the need for the present convention, saying that the primary problems to be considered were labor, plant readjustment, the effect of the cancellation of Government contracts, and the need for a permanent basis of cooperation between the four industrial interests—manufacturer, finance, agriculture, and labor. In connection with the subject of labor, Mr. King said:

"The time for profiteering, by either manufacturers or labor, has passed. No more time and a half, and double time. If you (referring to labor) want to work only eight hours, you will get them, but you will get only eight hours' pay, and you will be expected to do a full day's work for a full day's pay." In conclusion, the speaker set forth that: "The needed developments are many—a few have been sug-

gested. Private, municipal, and state needs should be studied, with the thought uppermost of the benefits to be derived by the greatest number, and which are for the greatest good. A basis for permanent cooperation might be a committee of five from each interest—agriculture, manufacture, labor, and finance, and which should be known as the New Jersey Industrial Council."

INDUSTRIAL COUNCIL FORMED

In accord with this latter suggestion, a resolution was adopted organizing this proposed committee, to be composed of a total of the twenty members as recommended by Mr. King, with the addition of ten members to represent public utilities, five of this number to represent the labor element. The personnel of this committee will be arranged so as to be agreeable to all members of the Council, and following the appointment of the different members, plans are to be formulated at once to arrange a definite program of concrete action for readjustment and reconstruction, bringing manufacturing and other conditions to a normal basis in the most equitable way.

Other addresses at the morning session included "Relation of Finance to the Readjustment Problem," by John D. Everett, former president the New Jersey State Bankers' Association; "Agriculture and What it Means to New Jersey's Industrial Prosperity," by Dr. J. G. Lipman, dean and director New Jersey Agricultural Experiment Stations; and informal remarks on the industrial and commercial possibilities of the country with relation to world commerce, by Myrza Ali Kula Khan, Persian Minister to the United States.

NO CUT IN WAGE SCALE

Following a luncheon in the main dining room of the hotel, the meeting reconvened about 2:30 p. m., and from this time until well after four o'clock individual group meetings were held by manufacturing, financial, agricultural and labor interests. A joint meeting was held later for the adoption of numerous resolutions. Among the most important of these was that covering the question of existing wage scales. The meeting, by unanimous consent, voted: "It is the sense of this convention that there should be no radical reduction in the scale of wages until the purchasing power of the dollar increases, and in any event wages should be the last thing cut in any readjustment."

At this later meeting, Colonel Austin Colgate, vice-president of Colgate & Co., Jersey City, and first vice-president of the Council, presided. Interesting addresses were made by Arthur A. Quinn, president New Jersey State Federation of Labor, and Henry F. Hilfers, secretary of the same organization. Mr. Quinn was applauded by those assembled when he said: "Overtime must cease and there must be a return to the principle of the eight-hour day—and labor welcomes this change."

A banquet was held at 7 p. m. in the ballroom of the hotel, at which Mr. King presided as toastmaster. The visitors were welcomed by the Hon. Charles P. Gillen, mayor of Newark. Among the prominent speakers of the evening were Dr. W. H. S. Demarest, president Rutgers College, who spoke on the subject of "New Jersey's Obligation to Its Youth in the Readjustment Period"; W. H. Besler, president Central Railroad of New Jersey, "Some Aspects of the Railroad Problem"; Dr. Alexander C. Humphreys, president Stevens Institute of Technology, and Myrza Ali Kula Khan, Persian Minister to the United States.

CLAY PRODUCTS REPRESENTED IN COUNCIL

Among the clay interests affiliated with the Council, which now has a total membership of over 120 are: M. D. Valen-

tine & Brother, Woodbridge, fire brick; the Trenton Pottery Co., Trenton, sanitary porcelainware; the Standard Sanitary Pottery Co., Elizabeth, sanitary earthenware; Star Porcelain Co., Trenton, electrical porcelain; Such Clay Co., South Amboy; Sneyd Enamel Brick Co., Trenton, fire brick and enameled brick; American Cameo Co., New York, china and porcelain specialties; Atlantic Terra Cotta Co., Perth Amboy; A. Reeder Chambers, Trenton, fire brick; Cumberland Glass Manufacturing Co., Bridgeton; Didier-March Co., Perth Amboy, refractory materials; Fords Porcelain Works, Perth Amboy, sanitary earthenware; John Maddock & Sons, Trenton, sanitary earthenware; Thomas Maddock's Sons Co., Trenton, plumbers' earthenware; Matawan Tile Co., Matawan, ceramic, mosaic and vitreous floor tile; Monument Pottery Co., Trenton, sanitary porcelainware; J. L. Mott Co., Trenton; New Jersey Pulverizing Co., Cedarville, silica, flint, etc.; Kingsland Shale Wire Cut Brick Co., Paterson, brick; Lowe Paper Co., Ridgefield, clay coated products; Perth Amboy Tile Works, Perth Amboy, floor tile, etc.; the Figueroa Cut Glass Co., Hammonton, cut glass and other products; and the Lambertville Pottery Co., Lambertville, sanitary earthenware.



Rutland Fire Clay Co. Salesmen Confer

The regular winter conference of the members of the firm and the traveling salesmen of the Rutland (Vt.) Fire Clay Co., was held at the Bardwell Hotel, Rutland, beginning December 31. The week was spent in visiting the plant on Curtis Avenue and in meetings for the exchange of ideas looking to the success of the business, which promises great advancement this season, according to A. W. Perkins, president of the company. At the summer meeting each representative of the company was assigned one or more lines for special investigation as to market conditions, field of competition, etc., a report being given at the winter gathering. The results of this systematic investigation of the entire field covered by the concern proved of particular interest and value.

The Rutland Fire Clay Co. has, during the last year, added improvements and equipment which will double the capacity of the plant during the next year. At the present time the company is building at the mine east of Rutland a storehouse which will double its capacity for drying materials, making it possible to dry about 250 tons per week. The new boilers and engine purchased in the summer are now being installed at the factory to produce 125 additional horsepower.



Waste in the Hiring of Men

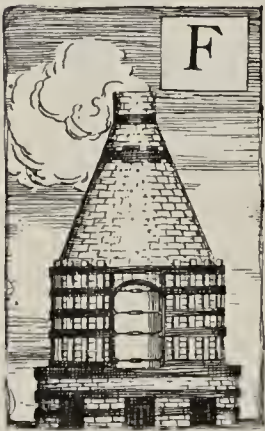
According to figures collected by John Lind, assistant secretary of the National Lumber Manufacturers' Association, one large automobile concern, in 1913, lost \$2,500,000 in hiring, temporarily training, and then losing or dismissing 52,445 men in order to keep a constant working force of 13,000 men. This may be an extreme condition, but it indicates the cost of changing men and shows that it pays to keep a steady permanent body of labor. This large labor turnover has now been greatly reduced by this firm. A Pittsburgh corporation with a permanent force of 16,000 men had a labor turnover, in 1916, of 187 per cent. Experts estimate that it costs from \$40 to \$150 to hire and train a new workman; hence this amount is lost if he is dismissed or becomes dissatisfied and leaves of his own accord.—*Machinery*.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

SUPPLYING THE POTTERS' CLAYS



FLINT AND QUARTZ are essential auxiliaries in various phases of pottery manufacture. In connection with ball clays, the use of flint reduces the shrinkage and tends to add to the strength of the finished product, while the value of quartz as a fluxing material with the employment of china clays and the like, used with feldspar, Cornish stone, etc., is too well known to need of mention. Plants devoted to the production of material of this nature, generally classified as flint and spar mills, are in the minority. Scattered here and there, they are not only difficult, at times, to locate, but are reticent in giving information regarding activities or production. With known customers and consumption, there is seemingly no necessity for spreading facts about their work, with the result that few references are available in technical literature covering this factor that properly is embraced under the broad head of the pottery industry.

As in other fields of manufacture, there comes a distinction to flint and spar mills based upon the diversity of production and the ability to supply the exact character of material which a particular pottery might desire for its different specialties. There are plants that carry little stock on hand, operating along the lines of least resistance and with no apparent desire to enhance the existing scope of business, while others pride themselves on the extent of their accomplishments, investing thousands of dollars in spar, quartz, flint and allied raw materials, not only to serve their customers to the best ends, but to be thoroly prepared at all times to fill adequately all demands.

Distinctly in this latter class is the Eureka Flint & Spar Co., operating two large plants at Trenton, N. J. This organization is prepared to take care of potteries to a point of minute detail. The company's product is shipped to many distant parts, and high grade potteries in other sections, such as the Onondaga Pottery Co., Syracuse, N. Y., and Buffalo, N. Y., and the Mayer China Co., Beaver Falls, Pa., are large consumers of the company's output. Needless to say, Trenton potteries make large demands upon the flint and spar works for different materials, with the result that not only a staple trade, but a rapidly increasing

one, is at the command of this enterprising concern. Material is also furnished as fine as 600 mesh for polishing operations in other lines of work, while many paint manufacturers, including the du Pont companies, draw upon the company for supplies.

LARGE GRINDING FACILITIES MAINTAINED

The two plants of the company are located on New York Avenue, about a mile apart. Plant No. 1 has been in operation for the past 24 years, while plant No. 2 has been in service since about 1913. Each mill is operated as an individual unit, having its own grinding equipment, power plant and stock of material. The total production at both plants is about 1,200 tons of material a week. The shipping facilities are excellent, including both rail and water service—sidings extend from the Pennsylvania and the Philadelphia & Reading Railroads to the yards while the Delaware & Raritan Canal is in the immediate vicinity.

The installation at Plant No. 1 includes 21 grinding mills of cylindrical type, each of a size 6 ft. 8 in. by 6 ft., 5 chaser mills, with stone mullers and 2 kilns for calcining flint. The power plant for works operation comprises a standard compound Corliss engine, 1,250 horsepower rating, of Watts-Campbell Co. manufacture, and three 300 horsepower boilers, Marine type. The engine is belt connected to a generator, for electric energy for the operation of motors distributed as required thruout the plant.

At Plant No. 2, 12 cylindrical grinding mills, each of a size 6 ft. 8 in. by 8 ft. are installed, supplemented by 4 burr or chaser mills and one kiln for calcining flint. A modern power station is provided in an adjoining building, with prime mover consisting of a Westinghouse-Parsons turbo-generator, 750 horsepower rating, the steam supply being furnished by two 350 horsepower Edge Moor water tube boilers, equipped with special stokers of the company's own design.

LARGE VARIETY RAW MATERIALS ON HAND

Both plants are provided with excellent storage facilities and the stock on hand of various materials is almost a revelation. At Plant No. 1, the yard is equipped with covered sheds, as required, to protect different raw products from the weather, while at the other mill it is planned to build a similar housing in the near future. Material in storage at the two plants aggregates from 20,000 to 30,000 tons at all times, representing an investment of close to \$200,000 in the different raw specialties. These products include Canadian spar, Carolina spar, Maine spar, Maryland spar, Connecticut spar, Canadian talc, quartz from Bedford, N. Y., French boulder flint, selected French pebbles for grinding, and other specialties. The prices of considerable of this material have advanced rapidly during the past months, particularly the imported products; for instance, the last allotment of French pebbles cost the company \$25 a ton at New York.

Many sources of domestic production of these different

raw commodities are operated directly by the concern. In Connecticut, the spar properties are under individual ownership, and it is held that the best spar in the world is derived from this section; the Canadian deposits of this material are also owned by the company, while the Carolina and Maryland properties are operated under lease. By this arrangement the company is guaranteed an adequate supply at all times without any difficulties beyond individual control, and under its present plan of operation a stock sufficient for at least six months is carried at the two Trenton plants at all times.

Similar to clay mining and manufacturing works, the Eureka Flint & Spar Co. has experienced a shortage in labor and fuel supply for the year past, but conditions in this respect are now righting themselves. The fuel supply at the present time is good, and plenty of coal is on hand for works operation. As regards labor, there is a general easing in the situation and help is now available to a far greater extent than heretofore. The rising costs of different minor materials have brought about other difficulties to contend with, covering not only production but features of packing and shipping. In this latter connection it is interesting to note that burlap bags formerly costing about $6\frac{1}{2}$ to 7 cents each, are now quoted at 25 cents each, and with apparent scarcity of supply, coupled with delays in receipt. The Eureka Flint & Spar Co. is an interest of the Thropp brothers of Trenton, who are active in other industrial concerns in this vicinity. John E., Peter D., Thomas H., and Frank W. Thropp comprise the coterie. The plants are under the direct management of Mr. Baker.

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The Effect of Fine Particles in Pottery

An extensive investigation on the effect of particles of various sizes on the nature of pottery bodies has recently been made and confirms the observation previously made by Kraze and others that by substituting a fine quartz for a coarser one the shrinkage of the body is increased, but whereas Kraze found that the porosity was diminished Rieke found that it was increased at low temperatures, and diminished at high temperatures in the kiln.

Berdel had previously shown that the action of feldspar is more intense than that of silica with a corresponding increase in the fineness of the particles. The fineness of the various particles is of the greatest influence on the physical character of the material, particularly when the burning is carried to a point where extensive vitrification occurs. Without altering the proportions in which the various ingredients are mixed, it has been possible by varying the fineness of the particles to alter the expansion resistance to sudden changes in temperature density, strength, translucency and other important characteristics to a remarkable degree and to obtain advantages with respect to the finishing temperature of the kiln which are too important to be overlooked.

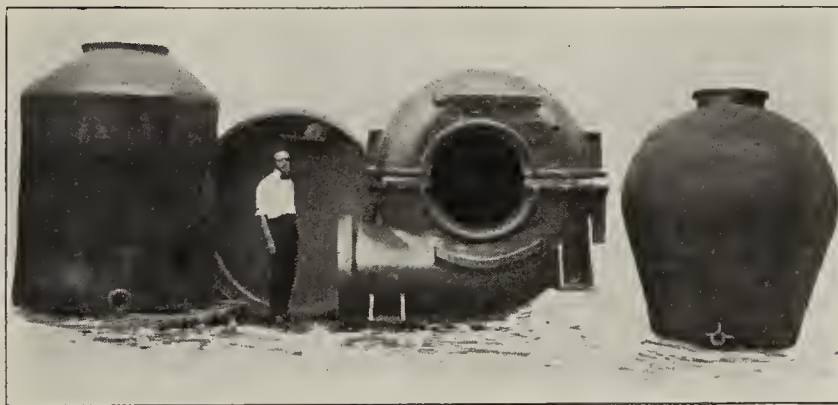
As the investigation was made on bodies which are not used in America, the detailed figures are of little interest, but they show the great importance of attention to matters which are frequently regarded as of minor importance, such as the grinding of various materials and the necessity of carrying out investigations of the chief body used by each manufacturer in order to ascertain how its properties vary according as one or more of the ingredients are used in a finer or coarser state and burned at various temperatures above or below that which is commonly used in the works. For instance, a study of Rieke's results shows that the changes in porosity and density of the ware often occur quite suddenly at certain temperatures and that by heating

a piece of ware to 100 degrees higher than is customary the properties which it possesses may be entirely changed. This is known in a vague way by most manufacturers, but it is advantageous to know precisely the conditions under which these changes occur, as by this means improvements in quality and economies in manufacture may be obtained which cannot be gained so readily in any other manner. This is one of the instances where research on proper lines and adapted to his special needs is profitable to a manufacturer.

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Interesting Chemical Stoneware Specimens

Recent issues of *Brick and Clay Record* have made reference to some of the exceptional products manufactured at the plant of the General Ceramics Co., Keasbey, N. J. During the past few years this company has made enormous strides in the production of not only high grade, but distinctly unique specialties—commodities that have gone to replace the use of iron and other metals in many and varied ways. It can be stated conscientiously that the products made at this plant from domestic clays will take high rank in quality, size, design and execution with those manufactured in any other part of the world.



Examples of the Advancement and Achievements of the American Stoneware Industry—An Outcome of War Requirements.

The different specialties which have been produced have proved of immeasurable value to the chemical industry, and the progress made in this latter field of work has been enhanced in no small degree by the utility and service offered by chemical stoneware products of various character. The accompanying illustration presents an interesting group picture of four notable specialties manufactured at this plant; these, from left to right, include a 1,000 gal. storage vessel, a 6 ft. diameter nitrating pan, a 30 in. exhaust fan housing, and 800 gal. storage vessel. An idea of the enormous size is gained from the man standing in front of the nitrating pan in the illustration. Plant No. 1 of the General Ceramics Co., at which these articles were manufactured, is in charge of Fred A. Whitaker, superintendent, and to whom may be attributed no small measure of success for the many interesting developments in chemical stoneware as evidenced by the wide diversity of production at this works.

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New Vice-President of Association

As noted in the last issue of *Brick and Clay Record*, in connection with the report of the annual meeting of the New Jersey Clay Workers' Association, Abel Hansen was elected vice-president of this organization. Mr. Hansen, whose likeness appears on the next page, is head of the Fords Porcelain Works, with plants at Perth Amboy and Fords,

N. J., having organized and founded this business some years ago. These factories specialize in the manufacture of porcelain products of sanitary nature, including wash trays, kitchen sinks, lavatories, vitreous toilet combinations and kindred specialties; the company is said to be the largest manufacturer of porcelain laundry trays in the world. Following the close of hostilities, operations for the production of its standard commodities have been resumed at both plants at about one-third of normal basis. With the advent of the spring season, it is expected that the factories will be manufacturing at close to regular output. Offices are maintained at New York, Chicago, San Francisco, Cal., Philadelphia, Pa., Boston, Mass., and Jacksonville, Fla.

As an idea of the patriotism of the company, it is interesting to note that during the war period a special let-



ABEL HANSEN

terhead was designed and used. This was printed in red, blue and green, reproducing the American eagle atop of a red, white and blue shield in the center, with red steamers intertwined with holly going out from either side; at the top of the eagle is the word "Victory!" appropriately adaptable since the close of the war. The company is one of the most progressive in the Raritan River section, taking a natural pride in its de luxe production and different features of plant operation. As vice-president of the New Jersey Clay Workers' Association, Mr. Hansen will work in close co-operation with his associate officers, Charles Howell Cook, Trenton, president, and George H. Brown, director, Department of Ceramics, New Brunswick, secretary-treasurer.



Pottery Manufacturers Still Busy

Free from Government war restrictions the manufacturers of Syracuse, N. Y., who turn out about a third of the pottery made in the United States, find themselves rather short of labor, but this matter is being rapidly remedied by the returning soldiers. All the local fac-

tories employed women during the war. Most of these, however, are dropping out as the men return, altho some of them who displayed the most skill and an aptitude to learn will be retained at good salaries.

Most of the potteries have a good supply of orders on hand. Some of them are completing Government contracts on which they were at work when the armistice was signed. The Government instructed plants working on orders to complete them, but not to start any new ones. As a result of this Uncle Sam will have a large stock of pottery of all kinds on hand which the local men believe will be stored and used up gradually. All this material is stamped "Q. M. C.," Quartermasters Corps, so that the Government could not sell it very readily without inviting complications.

"Potteries will be paying more attention now to labor saving machinery," B. E. Salisbury, president of the Onondaga Pottery Co., recently stated. "I believe it will be the tendency everywhere to produce by mechanical methods what his heretofore been done by hand. Of course, this can be successful only in the lower grade products at the present time.

"Business is going to be good. It will probably be better in the Middle West than elsewhere and also in the Northwest. The hotels have been using anything they could get and their service has run down, and these people as soon as they realize that prices are not coming down will start to build up their services to the standard it maintained before the war. I think that the potteries in general have a fairly good supply of orders on hand. We all have had difficulties with the shortages of coal, gas and labor that have prevented many of us from running at capacity. Conditions are better now, however, altho we are not yet able to figure on regular receipts, and we still have to carry rather large stocks. The general tendency will be to reduce these stocks as conditions continue to improve.

"Regarding designs I believe the industry is somewhat at sea. For a time, of course, there was a Government restriction, but this has now been removed. Some manufacturers seem to think that bold and pronounced decorations will be in demand, while others cling to the opinion that they will be more subdued. Personally I do not think that we were in the war long enough to make any change in the demand from what it was before the war."

Mr. Salisbury during the war was appointed chairman of the Clay Products Section of Resources and Conversion Section of the War Industries Board and held this position up to the time the armistice was signed.



Wages in Staffordshire Pottery Industry

The recent wages agitation has resulted in the manufacturers in the earthenware and china trades, as well as makers of jet and rockingham wares, granting to their work people the largest advance yet known to have been made at one time in the history of those trades, according to recent advices from Consul Robert S. S. Bergh, Stoke-on-Trent, England. It is true there is a condition attached to the grant that some few of the men may not like. The manufacturers have decided that this latest grant shall be the final one to which they will amicably agree; if the men feel inclined to press for more, the questions in dispute will have to go to arbitration.

Twelve months after war broke out the manufacturers agreed to a war bonus of 7½ per cent. From time to time subsequently allowances were made which brought the payments up to 40 per cent. on pre-war days. To that

20 per cent. additional is now added, making in all a 60 per cent. advance on the rates paid in 1914. These rates, however, do not apply to the sanitary earthenware and fire clay workers, or to electrical fittings and munition workers, or even to tile workers. The bonuses granted in the sanitary, tile, and fire clay branches of the pottery trade are somewhat less, accounted for by the appreciable decrease of trade in those sections. These particular industries have been hard hit during the war, the prevention of building practically putting an end to the industries for the time being. It is expected that a settlement in regard to these trades will be arrived at shortly.



Pottery Men Honor Muessig

C. Nick Muessig, of East Liverpool, Ohio, representative of B. F. Drakenfield & Co., was re-elected president of the Western Glass and Pottery Association, at the annual meeting in the Fort Pitt Hotel, Pittsburgh, December 16.

Other local men honored with election by the association were: Francis I. Simmers, of the Hall China Co., second vice-president, and H. P. Knoblock, of the Potters' Co-operative Co., chosen a member of the board of directors.

It was decided to hold the annual dinner-dance at the Fort Pitt Hotel on January 20.



No English Clays For Enemies

At a meeting of the recently formed Pottery Managers and Officials' Association in England, the subject of the exportation of English clays was considered and, in the interest of the trade generally, a resolution was arrived at whereby the English government is to be requested to prohibit the exportation of English clays to enemy countries after the peace terms are signed. Before the war the exportation of these clays to Germany enabled the manufacturers there to enter upon sharp competition with the British manufacturers.



Pottery Men Hold Meeting

Representatives of ten leading pottery manufacturing concerns located at Crooksville, Roseville and Logan, Ohio, held a meeting at the Clarendon Hotel, at Zanesville, on December 24, arranging a pooling of selling facilities. It is stated that under the contemplated arrangement all sales will be made thru a central selling agency to be located at Zanesville.



Pottery manufacturers of Trenton, N. J., have filed a brief with the Interstate Commerce Commission making protest against the opposed increase of 37½ per cent. in freight rates to southeastern points. The complaint has been entered thru the Chamber of Commerce, and follows a hearing before the Commission on November 12, last, at which George E. Hoffman, secretary of the Monument Pottery Co., and Edward Hammann, J. L. Mott Co., gave testimony. The brief filed sets forth that 60 per cent. of the total production of sanitary earthenware is in New Jersey, and that the proposed ruling will affect \$7,000,000 worth of products in this line annually, and of which over \$4,000,000 in value is manufactured in Trenton. In pointing out the disastrous effect of the proposed increase, the complaint reads: "This increase will result in practically eliminating shipment of sanitary earthenware plumbing fixtures to the

south, and under the present ratings it is felt that this commodity bears all that the traffic will stand. The present rating on sanitary earthenware is justified by the ratings at present in effect, and proposed on other earthenware products and if the carriers wish to measure the rate on enameled iron by the rate on sanitary earthenware by reason of the competition between the two commodities, and increase the carload minimum on the earthenware to 80,000 pounds, there would be no objection on the part of the manufacturers of the earthenware product; but the measure of the rate on sanitary earthenware should remain on its present basis in relation to other earthenware."



The sanitary potteries at Trenton, N. J., are now working at about 50 per cent. normal capacity on a general average, some plants ranging at 60 and others at 40 per cent. It is understood that an increase is anticipated at an early date, current orders and inquiries indicating an active revival in the immediate future. There has been no change in the situation with the saggermakers, whose walk-out from different plants at Trenton, Camden and Lambertville, N. J., was reported in the December 17 issue of *Brick and Clay Record*. The places of the men are now being filled as rapidly as possible and it is understood that there will be no effort to comply with the request of the men, who ask to be relieved of the work of carrying material from sagger shops to kilns. As generally known, the local potteries operate under regular agreement with the union, as in other parts of the country, and the manufacturers hold that the action of the saggermakers is not justified, no decision on this point being reached at the recent Atlantic City conference. Mr. Dyer, associated with the Trenton Potters' Association, has returned recently from a trip of investigation to the Middle West, visiting the potteries and allied interests in this territory.



Miss M. Leslie West, of the G. R. Crocker Co., Syracuse, N. Y., reports that local pottery business has been splendid thruout the holiday season and will equal, if not surpass, that of any in history. Recently importations have started up to some extent and some English china is arriving in this country, but according to Miss West, it will be some little time before the importations from England reach any great amount and there is little chance of the French product being sent here for a long time to come. Prices on imported china are more than double what they were before the war, while there has been an increase of about seventy-five per cent. in the price of the American product.



Potteries at Trenton, N. J., and vicinity devoted to the production of electrical porcelain goods are experiencing a rapidly increasing trade and the outlook points to continued activity in this line. All departments of operation, including pressing, finishing and other work are developing greater capacity and employes are being increased in force. Women workers are being used in a number of cases. The Cook Pottery Co. is now operating at about two-thirds of normal capacity. This company has recently developed some exceptional specimens of electrical porcelain, manufacturing only the highest grade products.



At the plant of the Louisville (Ky.) Pottery Co., the force is working on flower pot stock just now. There is not any great demand at this season, but the company

believes there will be a good spring demand, and will have stock on hand sufficient to carry it right along. There has been a fair jug demand all fall, as the distillers and bottlers have been busy, but with prohibition effective in June, the outlook in this field is not so promising as it was.



During the month of January, the Public Library, Syracuse, N. Y., is holding an exhibit of pottery made by students at the New York State School of Clay-Working and Ceramics at Alfred University, Alfred, under the direction of Professor Charles F. Binns.



The Florentine Pottery, of Chillicothe, is being moved to Cambridge, Ohio. A building three times the size of the one used at the old location, and new machinery is being installed.



Gleanings from the Mail Bag

The new year has not progressed far enough to indicate any noticeable change in building conditions at Trenton, N. J., and vicinity. The brick manufacturers as well as the pottery and affiliated interests are optimistic for the future and while the average plant operation is from one-third to two-thirds of normal in the different lines, with the majority of brick yards closed down, there is a change in spirit from that shown in months past. There is little or no construction work at the present time, the call for brick and other materials simply covering necessary alterations and improvements in existing structures. Good grade common brick is still selling for about \$13.50 at the yard and slightly over \$17 per thousand to the builder; this brings the cost of laying a thousand brick well up to \$30, which is hardly an attractive figure for the prospective investor. The current stocks are sufficient for all demands of the nature as now being received. The same holds true of face brick, for which there is but little call at the present time. The local fire brick plants are still producing, the prices for the best grade fire brick being close to \$70 a thousand. Trenton is literally a city of brick homes, dwellings of all kinds have utilized this material in preference to any other, with the result that even in the poorest quarters rows of houses of this type may be seen. This means that in the building revival now anticipated, there will be a great demand for brick of all kinds in this vicinity, for the sentiment of preferring this material to any other has certainly not changed, in fact, if possible, it has increased, and there is every reason why it should.



This is the inventory period—the time to take account of stock, and a brief review of the past year's record for building work is particularly opportune. In this, Newark, N. J., and vicinity is no different from any other part of the country. It does not require much estimating to show that 1918 was one of the poorest building years of recent date, and in this locality the drop of \$4,057,477 from the total of \$9,393,510 for 1917, gives a comprehensive idea of just how low the year has receded. The aggregate for the past year, \$5,336,033, is the lowest since 1902, when the total for the year was \$4,044,062. The biggest factors working for the decrease were new industrial buildings, \$1,874,988, new dwellings, \$460,509, and general alterations,

\$177,851, making a total of \$2,513,348 for these items alone. A review of the situation shows a noticeable advance in the average cost of construction, this for factory buildings advancing from \$12,022 in 1916 to \$15,701 in 1918. During the past year a total of 87 factories were constructed at Newark, totaling \$1,366,019 in estimated cost. Of these 54 were of brick construction and the balance frame. In 1916, the factory work aggregated \$2,464,449 covering 205 buildings, and in 1917, \$3,241,007 for 150 structures. The total aggregate of brick and other fireproof buildings in the city for the past year was \$3,410,736 as against \$6,699,268 for similar structures in the year previous.



A review of the building situation at Atlantic City, N. J., is particularly interesting at this time, considering the many important conventions which have been held in this city during the past year, covering clay, brick, building and many other interests. The past year has been decidedly poor, even to the point of realty transfers, which have been very inactive; since the close of the war, however, there has been a slight gain in this phase of the field. Notwithstanding the fact that munition plants in the country have reduced operations to a low status, discharging hundreds of mechanics and laborers, there is still a scarcity of skilled labor. To make the situation still more difficult, organized tinsmiths, plumbers and electricians declared a general strike, January 2, with demand for increased wages; plumbers and tinsmiths are asking 87½ cents an hour, an increase of 12½ cents an hour, with double time instead of time and one-half for overtime. Electricians are asking a like wage scale, or a flat rate of \$7 for 8 hours. Coupled with this condition, it is said that bricklayers and plasters will soon make a formal request for a scale of \$1 per hour, effective April 1. Capital is hardly likely to invest in buildings under these wage schedules, considering that on an average three-fourths of the cost of a new structure is represented in wages paid. It is held that no major building operations can be expected until the uncertainty of the prices of labor and material is cleared away.



The Hay Walker Brick Co., 52 Vanderbilt Avenue, New York, is arranging plans for the early resumption of activities in connection with fine, artistic chimney construction. The company has made a specialty of this feature of brick manufacture and erection and under war conditions was forced to suspend operations of any extent in this line. These chimneys are especially designed for fine country homes, laid out in accurate detail with full-sized drawings in order that each feature may be carefully carried out to the finest point of perfection. The brick used in the construction are formed to have the appearance of dull, weathered material, as seen in the old English residences, and in fact the designs are based on chimneys of this style. The brick are produced at a plant in New Hampshire and require considerable hand work in the different details of manufacture. In its regular business, the company handles considerable Pennsylvania brick, including production of plants in the vicinity of Pittsburgh embracing Bolivar and other locations.



The Missouri Fire Brick Co., St. Louis, Mo., has moved its offices to the Security Building, Southwest Corner of Fourth and Locust Streets.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Corrosive Action of Flue Dust

In general, the penetration by flue dust is greater in fire clay than in silica fire brick. In most cases the bond is attacked first and the coarser grains last. In silica brick the depth of penetration by the dust is generally less the finer the grain. In the fine-grained brick the coarser grains and the bond are both attacked, while in the coarse-grained brick the bond is alone attacked to any serious extent. It therefore follows that the bond of a silica fire brick offers the feeblest resistance to the attack of a corrosive slag. The attack on the coarser grains of silica fire brick varies with the nature of these grains. When there is much cementing material between the quartz grains the penetration of the rock fragments by the dust is greater than in the case of a compact rock made up of interlocking grains.

Under oxidizing conditions iron oxide does not corrode silica brick to any noteworthy extent, but under reducing conditions ferrous silicate forms and acts as a corrosive flux. In trials with bull-dog dust the silica brick were far less attacked than were fire clay brick, and, generally, the iron oxides corrode fire clay brick more than they do silica brick. The dusts apparently exert an influence on the conversion of the quartz into the low specific gravity form or forms, even where the coarse grains have apparently not been penetrated. This is possibly in part due to the vapors of the alkalis in the dust. There is also some evidence that contact with oxide or iron in oxidizing flame hastens the conversion of the quartz.



Cleaning Soot with Salt

At a recent meeting of men interested in power plant subjects, Joseph Harrington, fuel administrator for Illinois, spoke on the importance of clean heating surfaces. In connection therewith he described a system of soot cleaning that was efficient, cheap, required little labor and obviated reducing the duty of the boiler. The fire is put in good condition, with plenty of incandescent surface, and then common salt is sprinkled over it. The heat dissociates the salt into sodium and chlorine gas, filling the furnace with dense white fumes. The sodium burns with oxygen and passes off; but the chlorine gas has affinity for the soot-forming material and so combines with it. The effect is to cause the soot to shrivel, become spongy and fall or simply disappear. In reply to questions as to the quantity of salt used he said that from five to six scoopfuls of coarse salt were used in a 300-horsepower Stirling boiler fitted with Green chain grates and burning Illinois coal. The salt was thrown in, one scoopful at a time. It required about half an hour for a scoopful to disappear. By spreading one or two scoopfuls of salt during the day the boiler can be kept free from soot continuously. Examination by a chemist showed that neither the boiler nor the brickwork was in any way affected adversely by the use of the salt.

Operate Motor at Rated Speed

In operating electrical motors one probably wonders why certain practices are followed altho they do not appear to be the best as far as economy or efficiency is concerned. For instance, when the field current of a motor is reduced its speed increases. Since it takes less current at the higher speed, why should it not be economical to operate the motor at the greater speed, maintaining normal speed at the load thru a greater reduction ratio by using a smaller driving pulley or a larger receiver. A study of the condition will reveal, however, that while it is true that a motor will run at an increased speed when the field current is reduced, it will be found that the armature current is thereby increased and that this increase more than counterbalances the decrease in field current. Therefore, the motor should be operated at the rated speed.



Consider the Chain Belt for Transmission

You use a great quantity of leather, canvas or rubber belting in your plant and no doubt have never considered the use of the chain belt, which if applied would give you better results in a good number of instances. The ordinary belt always runs with some slippage, and this condition varies according to the conditions under which the belts are running. They may be affected by grease, moisture, dust or heat, and any of these conditions will prevent a belt from giving you the full benefit of the power you are paying for.

With a chain belt you have no slippage, and it is not affected by any of the above mentioned conditions, but is sure to give you the benefit of every kilowatt of electricity that you are paying for. You are sure to obtain full efficiency from your motors or machines because a silent chain drive is a positive power transmitter. There is no chance for slippage as in other belts and an installation of this type of drive soon pays for itself.

There are a great number of installations of this kind on various clay plants thruout the country and all have been found to be very satisfactory and irreplaceable, as far as efficiency is concerned compared to other belts. The only care required is that it be properly lubricated once or twice a week, and the chains should be run slack, thus dispensing with any unnecessary friction upon the journals causing them to heat, and also eliminating excessive wear. If such care is taken this type of transmission needs no further attention and a positive, steady transmission of power is assured.



Illinois Clay Workers Choose March

According to the most recent information, the Illinois Clay Manufacturers' Association, of which Cullen W. Parmelee is secretary, 203 Ceramics Building, Urbana, Ill., will hold its annual meeting early in March. Neither the date nor place of meeting has as yet been definitely determined.

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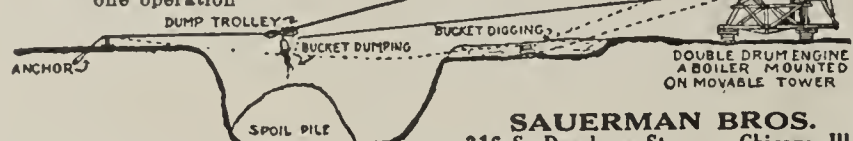
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Wants Formula For Computing Furnace Area

877. Ohio—We are desirous of a formula to use in computing the area of dead bottom furnace in our kilns. Do you consider the area in the bag wall as a part of the furnace? As the furnace proper seems to emerge in this area, where is the dividing line, if any?

A formula for computing the proper area of any furnace is strictly empirical, and the conditions of operation will determine quite largely what must be taken into consideration in deriving such a formula.

Strictly speaking, the area of the active fuel bed should be used in furnace proportion. In the case of the dead bottom furnace this will probably mean practically all of the area within the bag wall and the furnace proper. We think that it would be safe to figure on that basis.

✻ ✻ ✻

Differentiation in Porcelain and China

884. Illinois—I am very much interested in the manufacture of high grade china ware and would like to know if there is now being manufactured in the United States porcelain, the body of which is made up wholly of kaolin, spar and flint, with no metal or bone ash in the glaze.

In reply to your inquiry, we have the following letter from Charles F. Binns, director New York State School of Clayworking and Ceramics, Alfred, N. Y. Mr. Binns, as you probably know, is one of the best authorities in America on the manufacture of pottery.

"We differentiate between porcelain and china. Porcelain is the white translucent ware manufactured in Europe in which the body and glaze are matured at the same temperature, that is, it is a once-fired ware. This is not made in this country except as chemical porcelain and in a small way by the Union Porcelain Works, of Brooklyn.

"China is a twice-fired ware in which the body is composed of kaolin, ball clay, feldspar and flint, and burned to maturity before glazing. The glaze is subsequently added and burned at a lower temperature.

"No metal is ever used in either porcelain or china but bone ash forms an important ingredient of the English bone china which is a sub-section of the china group. I believe the only firm making bone china in this country is Lenox Incorporated, of Trenton, N. J. The regular china or so-called hotel china, is made at numerous places, Syracuse, Buffalo, Trenton, East Liverpool, and so forth."

We also have a letter from Geo. H. Brown, director of Rutgers College, New Brunswick, N. J., which reads:

"From your letter I presume that the inquiry referred to

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Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

the manufacture of 'hard porcelain,' namely, porcelain manufactured from a body mixture of kaolin, flint and feldspar and coated with a so-called hard porcelain glaze compounded from a mixture of whiting, feldspar, kaolin and flint. A body and glaze of this kind are used in continental Europe in the manufacture of their 'hard porcelain' which is fired to cone 15 and above. In the manufacture of the European hard porcelain a low-biscuit (above cone 08) and a high glost fire (cone 15+) is employed.

"To my knowledge there are only a few plants in this country employing the European body and firing temperatures. I have in mind particularly the Union Porcelain Works, of Brooklyn, N. Y., where the European practice, including body, kilns, and firing temperatures, are employed in the manufacture of table ware.

"Altho I do not have positive information, it is my understanding that some of the chemical porcelain now being manufactured in this country is made by the low-biscuit and high glost fire method.

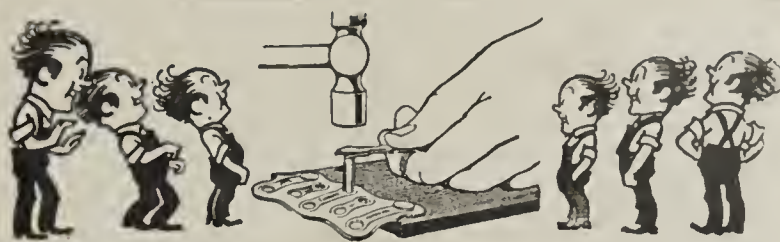
"I have also recently learned of a new plant which has been started at Bedford, Ohio, and in which they plan to produce high grade hard porcelain similar to that produced in Europe.

"The elimination of ball clay from a porcelain body necessitates a higher firing temperature in order to secure the desired vitrification. At the same time, however, the elimination of the ball clay gives to the body a whiter color on account of the high content of iron in ball clays. The employment of the hard porcelain glaze and a higher firing temperature produces a glaze which is mechanically harder and more resistant to corrosion and wear than is the ordinary glaze manufactured by the American process.

"Your inquirer is on the right track if he is attempting to eliminate ball clay from his pottery body and to employ a harder glaze."

Arthur S. Watts, Professor, Department of Ceramic Engineering, Ohio State University, Columbus, writes: I presume that the information desired is with the idea of securing a highly resistant surface on porcelain. The manufacturers of electrical porcelain for high tension work do not use any fluxes except feldspar unless it may be a very small amount of alkaline earth as cadmium or magnesium.

"The glazes used on this high tension porcelain do not, so far as I am aware, contain any bone ash or metal oxide except zinc oxide which is used by some of them in a limited amount but where used it does not appear to injure the resistance of the glaze. The manufacturers of chemical porcelain, especially the Ohio Pottery Co., at Zanesville, Ohio, and the Herold China Co., at Golden, Col., are manufacturing a pure kaolin porcelain such as you referred to and



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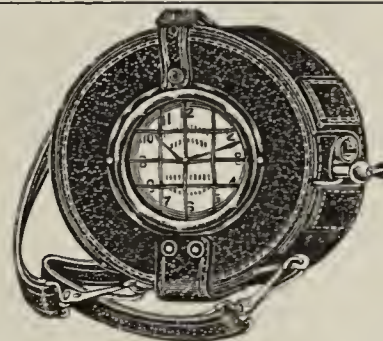
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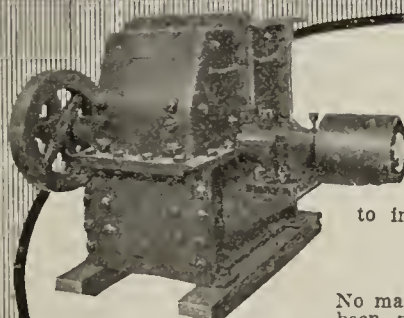
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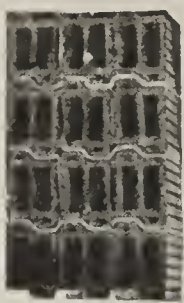
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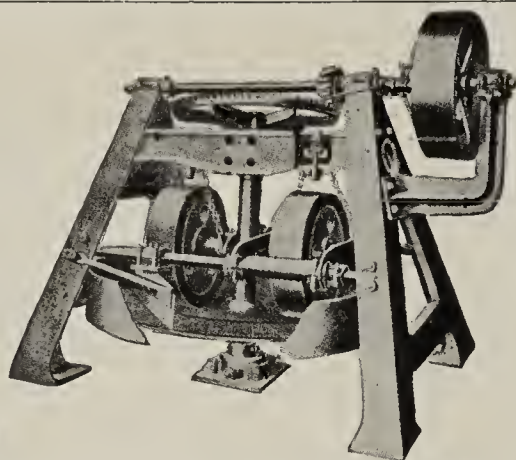
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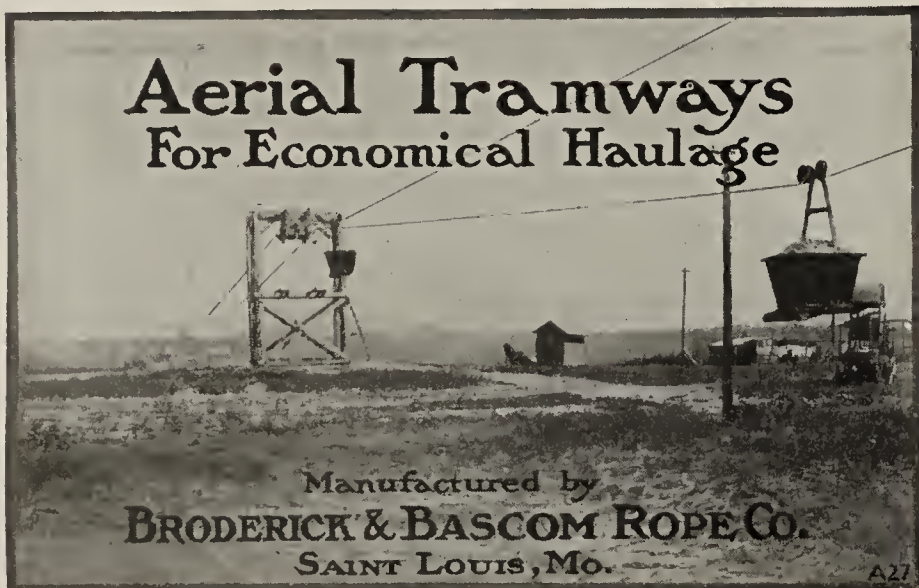
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Aerial Tramways For Economical Haulage



Manufactured by
BRODERICK & BASCOM ROPE CO.
SAINT LOUIS, Mo.

I am told on good authority that the glaze used in both cases is free from bone ash and metal oxide."

* * *

Is Dry-Press Cheaper Than Stiff-Mud Brick?

886. *Iowa*—Can you tell me if a dry-press brick can be manufactured cheaper than a stiff-mud brick? I have a glacial clay. It makes a nice brick but is so hard to dry without checking. Can you give me any light on this and what I ought to do? My clay makes a fine drain tile with very little waste.

The stiff-mud process of making brick is cheaper than any other method. You state you have a glacial clay which checks considerably in drying. Possibly this is due to the fact that it is very fat, that is, too plastic. In many cases that may be overcome by adding a non-plastic material, such as grog or sand. The amount that you should use can only be determined by experiment.

* * *

Firebox for Both Wood and Coal Wanted

885. *Alabama*—We have two round down-draft kilns in which we had used solid slanting grates until the fall of 1917 when it became impossible for us to obtain coal to burn in our kilns. We then prepared to burn wood exclusively by building on to our coal furnaces, fire boxes 24 in. wide by 36 in. high by 4½ feet long. This made a furnace which would receive two lengths of wood and we burned our tile very successfully. Now, it is hard to get wood enough to keep our plant running and coal is available and we want to arrange our furnaces so we can burn either wood or coal satisfactorily. We did not use grates in our wood furnaces and we are thinking of purchasing enough portable grates for one kiln, 2 ft. wide by 4 ft. long. Our objection to this is that the coal fire would be so far from the ware as there would be a four-foot space between the ends of the grates and the bag wall. With this arrangement, however, we could use either coal or wood or both as we could pitch wood behind the grates when hard firing.

If coal is burned in the extension firebox which is entirely outside of the kiln wall, a great deal of heat will be lost thru radiation. Besides this, there is the objection of having the fire so far removed from the ware which in all probability will lead to difficulty in burning.

On the other hand, if the coal were fired thru some fire-hole above the extension furnace, into the regular furnace, the fires would be difficult to handle due to the extension being in the way. However, there are some plants which are using both wood and coal in firing their ware but we are not familiar enough with their design of firebox to give you any information concerning them. Probably one of our readers may be able to help us out in this connection. If any one has any suggestions as to how to solve the problem outlined above we would be glad to hear from him.

* * *

The plant of the Independence (Kas.) Paving Brick Co., which has been closed for some time, will resume activities this month.

* * *

John McDonald, brick manufacturer, of Brewer, Me., has filed a petition in bankruptcy. He owes \$3,005 and has assets listed at \$100.

IN *the* WAKE of *the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Personal

W. J. Goodwin, tile and brick manufacturer of Des Moines, Iowa, was a recent visitor in San Francisco, Cal.

Aaron B. Levers, for many years engaged in the brick manufacturing business, died at his home in Bethlehem, Pa., on December 26.

H. S. Hamilton, president, and L. W. Sprague, general manager of the McArthur (Ohio) Brick Co., were in Columbus early in January calling on brick agents and manufacturers.

On the first of the year, F. W. Bryson, formerly superintendent of the Hebron (N. D.) Fire & Pressed Brick Co., accepted a similar position with the Basic Products Co., Ironton, Ohio.

Albert C. Lonyo, president of the Lonyo Brothers Brick Co., of Detroit, Mich., died at his home in that city on December 20 of stomach trouble. He was 63 years old and for more than 40 years had furnished materials for Detroit's upbuilding.

Arizona

Plans for improvements in the city of Miami, Ariz., to cost in the neighborhood of \$400,000, will be carried out soon. A complete sewer system is included in the plans. Pernel Barnett, of Mesa, Ariz., submitted the lowest bid for clay pipe for the sewer system of this place. The amount of the bid was \$30,782.01

California

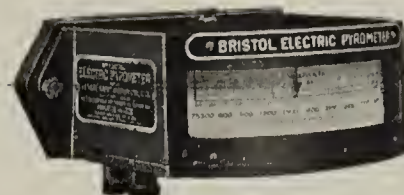
The United Materials Co. is renovating its quarters in the Crossley Building in San Francisco, in preparation for the business of the new year.

The factory of N. Clark & Sons, at Alameda, Cal., is rapidly nearing completion. When it is finished it will no doubt be one of the most up-to-date plants in this vicinity.

The City Council of Los Angeles, Cal., recently adopted an ordinance fixing the same percolation test for both clay and cement sewer pipe. The absorption and crushing tests were left as before. Approximately \$750,000 worth of sanitary sewers will be built under these specifications.

Plans for a one-story brick addition to the Masonic Home Hospital at Decoto, Cal., are being prepared by Architect Carl Werner. The estimated cost is \$40,000. Mr. Werner is also working on plans for a brick and steel structure for the city hall of South San Francisco, at an estimated cost of \$100,000. This was work started some time ago, but postponed on account of war conditions.

The present period is a rather trying one for the San Francisco clay products interests, and the manufacturers will have to mark time until the building activities commence in earnest, which is not expected until some definite



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on the job, and you won't
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"MORSE" Drives will SAVE, CONSERVE
POWER AND INCREASE PRODUCTION

Consult Our Engineering Service, Assistance Free

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With Union Steel Chains**

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Raw Ceramic Materials Directory of Dealers

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Costs 50 cents

BRICK & CLAY RECORD, CHICAGO

For Better Brick Drying in 1919

See Our Representative at the Convention

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About the FLEXIBLE Heating System of

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Or if you're not going to attend
the Convention, write us for
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"Green Strand" is both the name and the distinguishing mark of a distinctive service Waterbury Rope made from our Green Strand Giant stock.

This stock is improved plow-steel and has a tensile strength of from 220,000 to 280,000 pounds per square inch—the toughest grade of high strength material yet produced.

With regard to quality we do not believe it is possible in the present state of the art to manufacture better rope than "Green Strand."

CATALOG

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WATERBURY COMPANY
NEW YORK, U.S.A.

idea is gained concerning the price of materials and labor. Building in this district is boiled down to absolute essentials, and in the opinion of most of the men in the brick and clay business, it will be several months at least before any noticeable change is felt.

O. C. Steen, of the Oakland (Cal.) Art Pottery Co., when questioned as to building conditions in the East Bay section said: "Either things are moving mighty fast in and about Oakland, or we are getting more than our share." He also said that while terra cotta was not being used extensively just now for residential work, there are plenty of indications that it will be before long. He further stated that the three kilns of the company are working every minute turning out clay pipe, and two more will be built in the near future. Large shipments of the sewer pipe manufactured by this concern are being made to the shipbuilders' town of Clyde, near Richmond, Cal.

Delaware

The city council of Wilmington, Del., has consented to extend municipal service facilities to the Government's new housing operation here, also to seek legislation that will admit to the city a small portion of the operation that is now beyond the limits. The operation, which numbers 560 dwellings and apartment buildings, is gradually nearing completion. In connection with this operation the Government has agreed to advance \$175,000 to the city, with which to provide additional school facilities in the part of the city in which it is located.

Notwithstanding the building restrictions during 1918, permits were issued by the building inspector's department, at Wilmington, Del., during the year for operations valued at \$3,151,200. This is \$164,486.04 in excess of 1917, and is due largely to the fact that the Government built 560 houses, while the du Pont Powder Co. built about 100 for its executives. The year 1919 is expected to exceed 1918, provided the material and labor market eases up sufficiently, for there are a number of large operations which have been deferred, while a lot of private homes are planned. Everything is in readiness for the construction of a fine new city library and also a large building for the Young Men's Christian Association. The money is in hand for both, but the contract has not been let for either. Alfred I. du Pont also plans to erect a ten-story office building, which was mapped out just before this country went to war and has been allowed to lie dormant ever since.

Georgia

The plant of the Legg Brick Co., Calhoun, Ga., which was recently purchased by Jno. M. Stoner, president of the Cincinnati (Ohio) Clay Products & Supply Co., has been leased for one year, with the privilege of taking the next five, to the B. Mifflin Hood Brick Co., Atlanta, Ga. This plant, it will be remembered, is a very modern one with a continuous kiln and sixty-five acres of fine shale land.

The private levee on the property of the Bibb Brick Co., Macon, Ga., broke on the night of December 22, flooding the lowlands along the banks of the Ocmulgee and causing considerable damage to property. Superintendent George Woodruff and A. E. Hertzog, assistant superintendent of the Bibb Brick Co., who had been watching the river during the day, escaped in a row boat thru eight feet of water. The levee along the Bibb Brick Co.'s property is a mile long.

Illinois

The Grafton (Ill.) Clay Products Co. has been incorporated with a capital of \$30,000, by Roscoe B. Johnson, Charles S. Eggerman and Wm. B. Steele.

The Salverson Face Brick Co., Petersburg, Ill., recently increased its capital stock from \$30,000 to \$60,000. Thomas Salverson is president of the company and S. E. Watkins, secretary.

Indiana

The Rockport (Ind.) Drain Tile Co.'s old building was purchased recently by J. M. Brinkner, of Louisville, Ky., to be converted into a plant for the manufacture of tobacco.

The Muncie (Ind.) Clay Products Co. has been incorporated by Charles O. Grafton, Charles J. Gill, John H. Gill and Elza F. Heistand, for the manufacture of clay products. Its capital is \$10,000.

Building permits issued in Evansville in 1918 totalled approximately \$400,000, according to a report just compiled by Edward Kerth, city building inspector. This is a loss of 60 per cent. over 1917, when permits totalled \$1,000,000.

John Heuerly, of Craigville, Ind., purchased the tile mill of the Monroe (Ind.) Tile Co. and took possession of the plant after the first of the year. Mr. Heuerly formerly owned a tile mill at Craigville which he recently sold to Joel Kipfer, of that place.

Iowa

The Sheffield (Iowa) Tile Co. has recently started operation of its new plant. Sixteen new kilns are now burning.

The Capital Clay Co., Des Moines, Iowa, filed articles of incorporation with a capital stock of \$50,000. LaMonge Cowles is named as president and treasurer, Peter Madel, vice-president, and I. F. Nicholson, secretary.

Kentucky

The P. Bannon Pipe Co., of Louisville, Ky., which has a big sewer pipe contract on the Stithon Cantonment job, is not shipping anything just now, but expects to start again eventually.

A. E. Livingston, of the Louisville (Ky.) Builders' Supply Co., reports that business is quiet as is normal for the dead winter months in Louisville, but that from the general undercurrent he believes that there will be a very good volume of business coming out within sixty to ninety days. A few of the big jobs may be held up, but a fair volume of small ones are certain to be started.

Leo M. Parsons, of the R. B. Taylor Co., Louisville, Ky., in discussing the general situation said: "We've had more inquiries since the first of the year than during the two previous months. There appears to be a healthy interest in face brick and building supplies. Indications point to a considerable volume of small work in the spring, and the architects' offices have several good jobs under consideration, upon which very little is being given out just now. I believe that things are going to be much better than had been expected."

J. H. Bell, of the Louisville (Ky.) Fire Brick Works, reported that the company was fairly busy on back orders that had been side tracked during the rush on Government work. However, new business is coming in slowly,

Perforated Steel Screens

Of Every Description

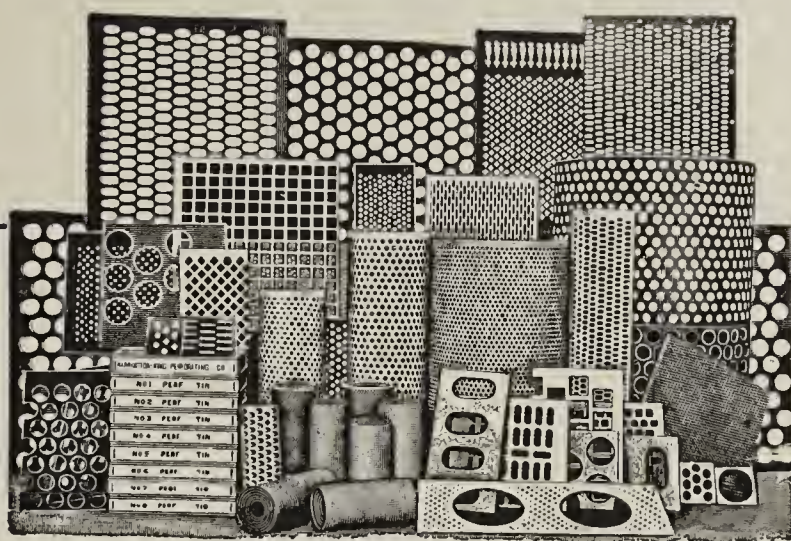
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No Other Screens Will Give You Equal Capacity,
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IMPROVE YOUR WARE

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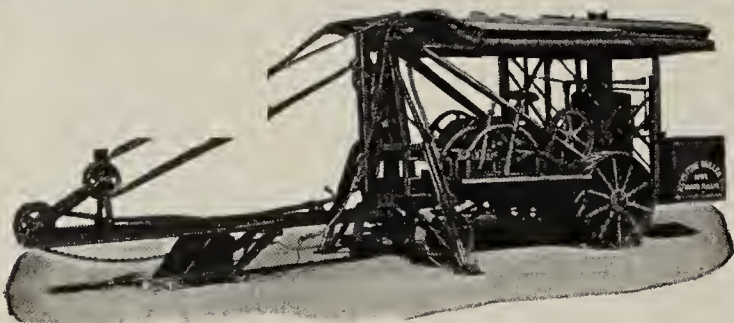
Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

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Have you a shallow pit—
from one to six feet deep?
Do you strip your shale pit?

The Keystone Excavator 10-Ton Traction

means a lot to the man who is operating under these conditions. Equipped with three different buckets, it is adaptable to a wonderful variety of work.

The flat bottom SKIMMER SCOOP (shown above) is designed expressly for shallow cutting. Mounted on a sixteen-foot boom, it has a horizontal crowding movement of eleven feet—hence can be used on cuts 6 inches in depth, loading 200 to 500 cubic yards per day and replacing 25 to 50 hand shovelers. Powerful and strong, it will dig shale or tough fire clay without blasting—anything but solid rock.

Operating in soft material, against a high bank, the half-yard DIPPER SCOOP is used.

For excavating below grade the DRAG DITCHING SCOOP is put on.

Its light weight (10 tons), long wheel base and large tread wheels make it an ideal traction, and its low cost makes it available to the plant of moderate capacity.

May we send catalog and list of Brick Makers who are using Keystone Excavators?

KEYSTONE DRILLER CO., Beaver Falls, Pa.

170 Broadway, New York City

Joplin, Missouri

Monadnock Block, Chicago

STEAM SHOVELS

and the company has not but about sixty days full business on its books at this time. New business has possibilities, but that is about all just now. Not much additional material will be needed in completing ships under construction, as contracts made some time ago covered practically all the fire brick needs for some time to come.

If weather conditions continue as they have, Kentucky will experience an early spring. To date the thermometer has not been as low as zero, and there has been no snow fall that remained more than an hour or so at the most. It has proven the most open weather period experienced since 1891. Brick plants which have business on hand are meeting with no handicap from the weather man, and are enabled to go right ahead with business. Shipping and hauling has been greatly facilitated by the excellent weather conditions and such building as has been underway has not been held back in the least.

Brick prices in Louisville are firm and show no change whatever. Common brick are quoted at \$25, where sold from yard stocks, and at \$22.50 per 1,000 f. o. b. cars. These prices are subject to five per cent. off within fifteen days. The market is expected to hold up fairly well for a time at least, or until such a time as labor, coal, machinery, etc., shows declines which would warrant any reduction in price. Steel, lumber, cement, lime and other materials are all high, and with the various industries endeavoring to maintain prices, the brick man would be foolish to start cutting until competition forces it upon him thru lower prices in the other material markets. At the present time lumber is advancing.

Maine

Work has been started on a big sewer contract in the section of the city of Bath, Me., known as the "North End," a 20-inch drain being installed in place of the present open drain. A large amount of pipe will be necessary to complete the job.

Massachusetts

Continued mild weather, favorable for building operations, has increased the demand for brick in Massachusetts and altho dealers declare the market is not what might be called active there was a rather better demand during December than is customary at this period of the year.

Dealers in brick and other building supplies have been much interested in the building boom which William B. Wilson, secretary of labor, sought to inaugurate at a meeting in Boston, Mass., recently. New construction of steel, brick and wood, dropped in Boston from \$18,000,000 in 1917 to \$4,000,000 in 1918 and there is every prospect that much of this deficiency will be made up within the current year. Millions of dollars' worth of work already is planned only awaiting normal material and labor conditions to be started.

Missouri

The Grafton Clay Products Co., recently incorporated at Grafton, Ill., has opened a St. Louis, Mo., office at 303 Central National Bank Building, Seventh and Olive Streets.

The first fire brick advertising ever to go by airplane mail will be the A. P. Green Fire Brick Co.'s advertising, from Mexico, Mo., according to recent reports. This consisted of a relief map of the United States showing the exact location

of Mexico and its three railroads, and explained the value of the advertised commodity.

The A. P. Green Fire Brick Co., Mexico, Mo., is keeping twenty-five men and seven teams busy hauling fire clay from the farm of R. S. Lamar, East Fulton. The extent of the fire clay deposit in the vicinity of the Lamar farm is still unknown but the quality of clay being gotten out is considered extra good.

The Superior Clay Co., Federal Reserve Bank Building, St. Louis, Mo., started marketing its product on January 1. This concern has leased large acreage in St. Louis County and put thirty workers on its pay roll the first of the year. The mine is a surface proposition and the company has received orders for considerable business, following recent tests of its raw product.

Building construction in St. Louis, Mo., during 1918 fell off over fifty per cent. as compared with the 1917 totals, according to official figures just prepared by James N. McKelvey, building commissioner. The total cost of new buildings in 1917 was \$9,737,269 and in 1918 was \$4,025,425. The cost of alterations during 1917 amounted to \$2,681,168 and in 1918, \$2,208,982.

Work is being hurried along for a plant which it is expected will permit of shipment of ten carloads of brick daily, at Harrisonville, Mo., under the direction of Frank C. Nicholson, of Iola, Kas. More than a year ago the plans for this construction work were put under way but were halted later because of building restrictions. It is now planned to rush the work as rapidly as possible.

The Brick Manufacturers' Association of St. Louis, Mo., held a meeting at its office in the Wright Building, January 3. All the St. Louis brick manufacturers are members of the organization. Secretary Walter Pocock stated that the brick men felt supremely confident that there will be a general resumption of building activities next spring. The business was keenly affected by the war.

Richard L. Hatton, vice-president and general manager of the Laclede-Christy Clay Products Co., St. Louis, Mo., recently said, regarding the business outlook for 1919: "We did our share of what business there was last year and expect to show a considerable increase this year. There is room for improvement and I look for a decided improvement all along the line. A great deal of building construction held up by the war will come into the market this spring."

R. Stanley Rhoad, vice-president and general manager of the Evens & Howard Fire Brick Co., says: "We look for good business in 1919. Building construction will enjoy a boom this year. It was stifled for two years by the war. This work is now essential and must come on the market. Our organization feels that way and we are perfecting our plans accordingly. The United States is more prosperous than ever, money is plentiful and municipalities contemplating public improvement should have no trouble floating bond issues."

Discussing the business outlook for 1919, Robert A. B. Walsh, vice-president and general manager of the Walsh Fire Clay Products Co., St. Louis, Mo., said that he expected to see a decided increase in building construction before April 1. "The readjustment from war to peace will necessitate the reorganization of a great many enterprises that should benefit our business," said Mr. Walsh. "We are looking for the resumption of a vast amount of public improvement work that was held up by the war."



Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

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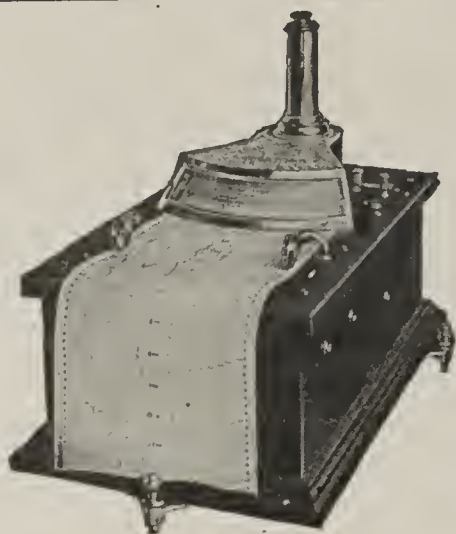
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WHEN you buy a Price Pyrometer, you buy results.

By this we mean, you get a strong, serviceable instrument that will give a continuous, accurate chart of heat in your kilns, and give this day after day, year in and year out.

A Price Pyrometer will lower fuel consumption and assure perfect ware regularly—particularly when you need it most.

WRITE

THE PRICE ELECTRIC CO.
12367 Euclid Avenue Cleveland, Ohio

All our reports are optimistic and we believe that a good year for business is ahead."

St. Louis, Mo., manufacturers predict that the demand for fire brick will be as brisk as ever the coming year. They believe, like Judge Gary, of the United States Steel Co., that this country will be called upon shortly to export tremendous quantities of iron and steel to Europe and South America. This business with large demands for steel from the railroads it is expected will keep all the American steel furnaces and rolling mills busy the coming year. Fire brick manufacturers estimate that the plants will consume enough fire brick to keep every fire brick plant around St. Louis busy for another year.

New Jersey

Articles of incorporation have been filed for the McHose Clay Co., with its principal office at Perth Amboy, N. J., Joseph E. Stricker being named as agent. The authorized capital is \$125,000, the incorporators being Lucius H. McHose, Malcolm McHose, both of Perth Amboy, and Howard McHose of Bethlehem, Pa.

The Campbell-Shultz Co., prominent in the brick business in Passaic, N. J., handling both common and face brick, fire brick, hollow tile and other building specialties, is optimistic for the future, and reports an increased volume of trade and inquiries since the cessation of hostilities. A fine spring season is anticipated, with strong revival of building activities. Other local concerns take a similar viewpoint and this is seemingly one of the sections of the state that gives evidence of going ahead with a building program in the right way. Available brick stocks are sufficient for current demands, Hackensack production being used in the majority of cases, with a little Hudson River brick furnished here and there.

In commenting upon the present situation, James R. Sayre, Jr., & Co., Newark, N. J., brick dealers, point out that labor is showing a change in attitude since time and one-half and double time are not so common. If this factor continues to improve, it will work to the decided betterment of construction enterprises, which are now being held back thru high existing prices of labor and materials. It is held that prices of certain standard commodities must be adjusted before any great demand can take place, and simply because prospective builders will not pay present quotations. Another important question which arises is whether funds in desired amount will be available for building projects, the money market at the present time being far from good for mortgage and other loans.

The demands from the surrounding country on the Hackensack, N. J., brick yards have resulted in reducing stocks to a low point. A few of the local manufacturers are refusing orders, intending to hold such brick as now stacked for the coming month or two, or until production is again under way. Possibly the idea of higher prices at point of production is the appealing element to bring about this action, but with quotations in the neighborhood of \$15 a thousand at the present time and the general clamor of the prospective builder being for lower figures, it does not seem that any noticeable advance can be anticipated, at least not for brick of regular run. To this figure in this district must be added the dealers' price before the material is available for the mason.

Brick and kindred building materials continue firm in price at Newark, N. J., and vicinity. Good common brick

You won't have to worry about competition if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

*We have a complete line
of high grade chemicals
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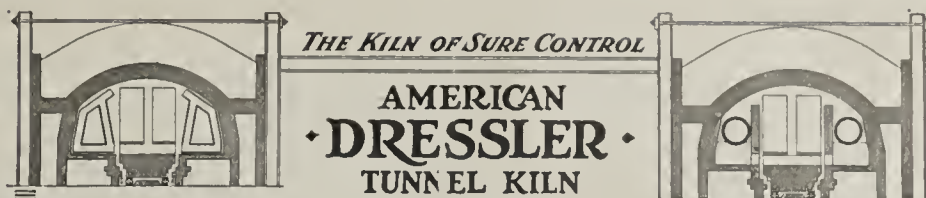
is selling for about \$19.50 at the yard, making a total of from \$32 to \$35 a thousand laid. With such cost it is evident that prospective builders are holding back waiting for a drop in price, but there is no present indication of a decrease of any kind. The demand is light and available stocks are sufficient for all immediate calls. Inquiries for face brick are in the minority, but the anticipated revival in building circles in the spring is lending an encouraging aspect to this commodity, and it is held, locally, that following the winter season, the demand is bound to be good. Fire brick is still selling in the neighborhood of \$65 a thousand and with no current evidence of a change in price; the demand for this commodity continues fair.

With respect to anticipated activity in building circles thruout New Jersey, as well as in other parts of the country during the coming spring, Dr. C. F. Kraemer, president of the recently organized Real Estate Association of Newark, and well in touch with the realty situation, says: "There are many reasons to believe that a building era will of necessity open up in the spring. The law of supply and demand demands it. With prices of labor and material adjusted there is no further obstacle to interfere with this program. So when all factors are viewed, real estate men are justified in preparing by organized effort not only in meeting this approaching business revival for their own benefit, but to co-operate with the taxpayers generally to prepare for greater and better cities to live in."

Brick interests, mason material dealers, architects, engineers and other factors in building circles at Newark, N. J., and surrounding territory are of the opinion that there will be a steady increase in building operations as the season advances. In this connection, Ambrose Tomkins, president of Tomkins Brothers, mason material supplies, points out that by the fall of the present year there will be enough new projects under way, both private and public, to keep those in the trade thruout Essex County very busy. This work, it is held, will go ahead as soon as the owners feel reasonably sure that building material prices of various kinds have reached a minimum, and that the man who is holding back a building project, waiting for materially lower prices, is due to receive a disappointment.

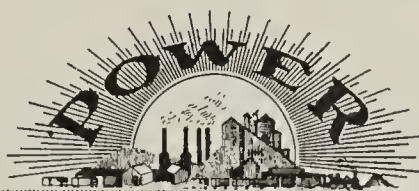
A review of construction work at Paterson, N. J., shows a poor year for 1918, and considerably lower than for some years past. Local building circles look for a substantial awakening during the coming year and while there is little actual evidence of the proposed right-about-face movement, current indications show that projects for factories and dwellings will be launched with the advent of spring. The demand for common brick is light and available supplies are fully sufficient for all current inquiries. Prices are firm at \$18 and \$19 a thousand for good grade stock. The call for face brick is decidedly at a minimum, with prices steady at \$50 upwards per thousand. It is so long since this commodity has seen a really active market, that the anticipated building revival is bringing renewed hopes of a call for "face brick by the thousands."

The hum of Government activities during 1918 in the Raritan River section of New Jersey has given way to decided change. Federal work of any important nature has been stopped, and those in the clay business in this great raw plastic clay producing center are again giving thought to their personal affairs, for many of them have made real patriotic sacrifices in the months past. As each



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Prosperity

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Bituminous COAL
Particularly Adapted
To Burning Clay Ware

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INDIANA BLOCK

Three Operations in Clay County, Indiana, on Monon R. R. Capacity, 3,000 Tons per day.

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Three Operations in Green County, Indiana, on Monon R. R. Capacity, 3,000 Tons per day.

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Both burn with long flame, are very low in sulphur, and leave a flaky ash.

Tell us your requirements

POWER COAL COMPANY
FISHER BUILDING :: :: CHICAGO
Traction Building, Indianapolis, Ind.
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6 years or 100 years---which?

**"Build
for
Service"**



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We build and furnish complete chimneys for any usage and for clay plants of any description. We also specialize in the construction of complete Round, Down - Draft, Rectangular and Continuous Kilns.

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General Contractors

**BRAZIL
INDIANA**

week goes by, the labor situation gives evidence of improvement and before the advent of spring, it seems certain that more clay miners and clay workers in the various manufacturing plants will return to their old positions, and additionally, that new help will be available. Fuel is now available to provide for all reasonable requirements, during the month of December manufacturers of brick, floor tile, wall tile, sanitary ware, terra cotta, and other clay products, being allotted 75 per cent. of the average annual amount of fuel consumed at their plants as during the period from January 31, 1917. The situation in this respect, continues to improve from day to day.

New York

The Hudson River Brick Manufacturing Co., New York, N. Y., a New York corporation, has filed a notice of dissolution.

Despite the war and building restrictions imposed by the Government, the total amount of construction work in Auburn, N. Y., does not show any decided slump during the year 1918. The figures for the year show a total of \$231,499, which is only \$616 behind the record for the previous year. The year 1916 was the banner one when \$225,615 work was done. More new houses were built during 1918 than in a number of years past.

Brick manufacturers at Hudson River points are making the most of the fine weather, and the majority are continuing the burning of green stacks, molded during the past season. Practically all fuel required is now available and with a continuance of the present open season, a much larger quantity of brick than anticipated will be available in the New York market. The past sixty days has brought about a decidedly changed condition in this district, and much to the advantage of the industry.

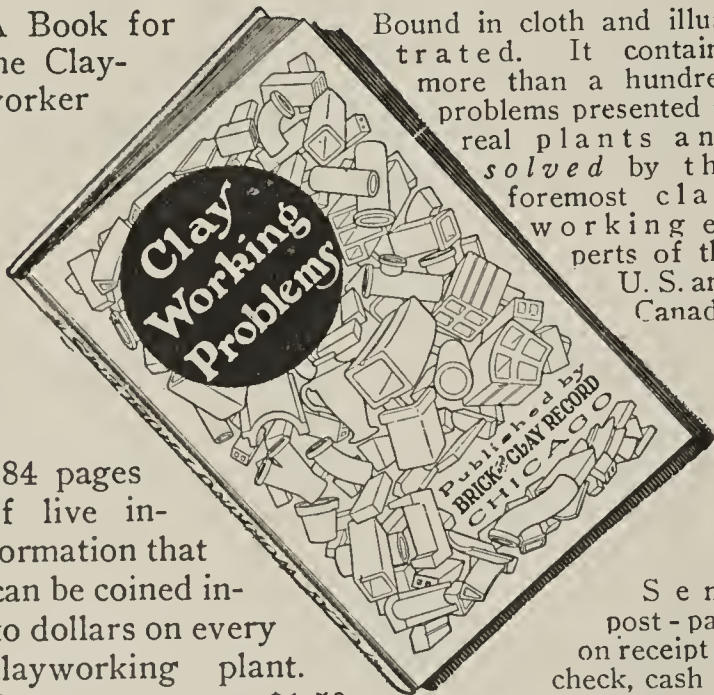
About \$1,000,000 worth of paving is to be done in Syracuse, N. Y., during the present year, according to the plans of City Engineer Henry C. Allen. He has called the attention of the common council to the importance of starting as soon as possible. Work on several streets was abandoned at the beginning of the war and Mr. Allen is prepared to resume work as soon as the plans are approved. In addition to the paving work a number of new schools are to be built at a cost of more than half a million.

The Milliken Brothers Manufacturing Co., Woolworth Building, New York, has commenced stocking up at its new plant at One Hundred and Thirty-sixth Street and East River, preparatory to active work in the manufacture of its standard structural sections for the standardized truss unit system of building construction, designed for utility with brick side and end walls. The works will be fully equipped for all features of manufacture, including the construction of an extension to be used as a steel galvanizing plant. Plans for this latter building are now being prepared; it will be the largest structure of its kind in Greater New York.

That things may be said to be improving in the building field in New York, is shown by the record for the month of December. In this time contracts were awarded for 14 new industrial plants and factories to the total of \$578,000, while awards for 182 houses and dwellings aggregated \$1,400,000; contracts for miscellaneous construction work in this time totaled \$2,469,000. It is said that additional factory buildings, contracts for which will soon be let, will aggregate close to \$500,000, and for dwelling proj-

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worker



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ects, \$2,600,000, while construction of miscellaneous character will total over \$3,300,000. Architects, in general, are engaged on plans for spring projects and there is a general atmosphere prevalent that the building movement is slowly but surely taking an upward trend.

The dullness which might be anticipated with the holiday season has been apparent in the New York City brick market. There has been a slight decline in the demand, with prices holding firm at \$15 a thousand for Hudson River common in cargo lots alongside wharf. It is generally expected that before the winter is over, prices will advance, probably from \$1 to \$2 per thousand, and with a substantial demand, to possibly a still higher level. During the past fortnight 13 cargoes have been received from North River points, the open season being beyond all expectations in making shipments possible at this well advanced stage of the winter. Second-hand common brick is still quoted at \$6 a load of 1,500 brick. In considering wholesale prices for brick in this district, it is interesting to note that during the past twelve months it has advanced from about \$8 to its present figure, this latter being the cargo quotation in December, 1917. The demand for face and decorative brick continues light, with prices firm; manufacturers in this line are playing a waiting game, making no attempt to force sales or reduce prices, but rather holding to the belief that the spring season will witness a strong demand for face brick of all varieties.

Ohio

Papers have been filed with the secretary of state increasing the authorized capital of the Queen City Shale Brick Co., of Cincinnati, Ohio, from \$25,000 to \$50,000.

The American Clay Products Co., of Zanesville, Ohio, has been chartered with a capital of \$100,000 by Nelson McCoy, A. E. Hull, F. M. Ransbottom, Wilson Winter and E. L. Taylor.

The real estate and other property of the Novelty Brick & Coal Co., of Newcomerstown, Ohio, will be offered at public auction on January 25. Attorney M. W. Bradshaw, of Columbus, has been appointed receiver.

The Ohio Highway Department has advertised for bids for a number of stretches of road improvement. The bids are to be opened January 31. It is understood that quite a few of the road improvement projects are to be brick paving. Contractors are already figuring on the work.

H. F. White, salesmanager of the Hocking Valley Products Co., Columbus, Ohio, says inquiries for face brick are coming in better and there is a better feeling shown in construction circles. He is of the opinion that building will open with the spring, altho he does not expect much during the winter months.

The plant of the Ohio State Stone & Brick Co., located at New Lexington, Ohio, which has been manufacturing fire brick for almost a year will soon change its product to face brick. The plant has been in operation for some time and was formerly the New Lexington Clay Products Co. The office has been moved from Columbus to Newark, Ohio, and H. M. Young is general manager.

G. W. McFall, general manager of the Robinson Clay Products Co., Akron, Ohio, and J. H. Jenkins, traveling salesman, of Cincinnati, were in Lancaster, Ohio, December 20, looking after the Utica and South Broad street sewers. The Utica sewer is estimated to cost \$26,000 and the Broad Street sewer \$11,100. The matter was left in the hands of their local agent, George E. Smetters.

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Right with you at the switch-over from wartime to peace-time production!

"Whatever the wind or weather" **GANDY**—the original stitched cotton duck belt—is on the job ready to deliver full power to every machine in your plant.

You can depend upon **GANDY'S** inherent strength and tenacity to get

all the pull from the pulley—all through the year

And now, at the beginning of a new year and a new era, when you "take stock" of your transmission and conveyor equipment and find replacements and additions necessary, remember that our Engineering Department stands ready to assist you with competent, advisory service.

It is the aim of this organization not merely to supply you with belting, but belting plus engineering service that will give you 100 per cent. results.

Yours for a prosperous New Year
"On-the-Job" **GANDY**

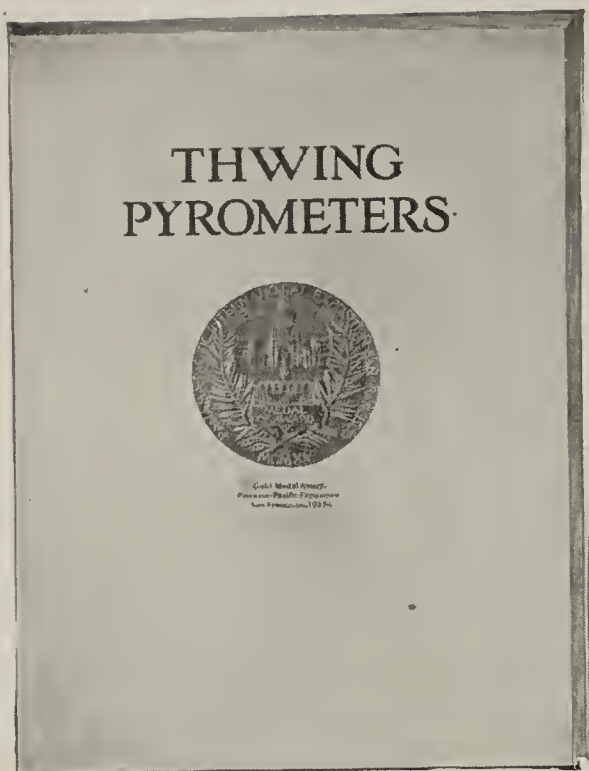
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Here's a book that everybody with heat control problems ought to read—not a mere catalog of Thwing Thermo-Electric, Radiation and Resistance Pyrometers, but an engineering discussion of important economies and possibilities—a collection of good hints and advice on how to get accurate heat control with inexperienced labor, how to make conscientious men more valuable, how to detect careless firing and compel proper attention, how to get a higher percentage of **first class** ware in shorter time and with less (often **very much less**) fuel, and with fewer seconds.

Among interesting subjects on which every one interested in heat treatment should be posted, are included the following—Proper use and comparative advantages of multiple recorders and indicators for pyrometers—Base-Metal vs. platinum thermo-couples—Correction of cold-end error—Protection and mounting of thermo-couples—Advantages of high-resistance galvanometers—Theory of thermo-electric, radiation and resistance pyrometers—Conversion of Centigrade to Fahrenheit temperatures and vice-versa—Calibration of pyrometers—Helpful wiring suggestions—and miscellaneous data on heat treating temperatures in brick and ceramic industries.

In sending for your copy, tell us your conditions and troubles so that we can give you additional interesting data applying to your individual conditions.

32

THWING INSTRUMENT CO.
3336 Lancaster Avenue Philadelphia

School house building is now attracting the attention of architects and brick men in Central Ohio. Quite a few brick school houses were held in abeyance because of the necessities of the war and now these schemes are being brought to life. In addition quite a few of the buildings which were stopped at various stages of construction will be continued and completed as soon as possible. The school building at Rushville, Fairfield County, Ohio, will soon be awarded.

Plans have been completed by city authorities of Cleveland, Ohio, for the paving of 126 streets in that city, a project that has been pending since before the war. Specifications call for a majority of these streets to be paved with brick. Plans call for speedy work on this entire project, for property owners have in some instances paid three and four annual assessments. As material and labor both are available since war restrictions have been removed, a real pavement for a large portion of the city is now possible. Only a few streets will be started and finished at one time, as the peculiar layout of Cleveland prohibits many streets being torn up at one time, otherwise access to the center of town would be greatly hampered.

Pennsylvania

The Harbison-Walker Refractories Co., Pittsburgh, Pa., has declared an extra dividend of 6 per cent. on its common stock.

The Auburn Shale Brick Co., Gettysburg, Pa., is planning to operate its plant thruout the winter season. The company anticipates a good demand for brick, particularly during the coming spring, and will operate at greatest capacity possible in accordance with the possibility of securing a full quota of employes. Like other plants of this nature, there has been difficulty in obtaining labor, but it is believed that the heretofore shortage will now right itself.

The past fortnight has not developed any change in the Philadelphia, Pa., brick market. The demand for common, as well as face and decorative brick is light, with prices firm at about \$20 per thousand, plus delivery costs. With such quotation, estimates show that a thousand brick laid will cost about \$35, which is no mean figure for construction work. The present supply at the different yards is sufficient for all ordinary demands as now estimated for the next two months.

A review of the construction field at Harrisburg, Pa., for 1918, shows that the volume of permits issued by the building department covered the erection of buildings to the total of \$912,800, as against \$2,006,515 in 1917 and \$1,830,000 in 1916. The lowest months of the past year were October and November with totals of only \$7,150 and \$16,500, respectively. With the advent of the New Year, the attitude on the part of local builders and others in the trade is one of decided hopefulness. It is expected that the passing of the winter season, construction work, despite the high costs of material and labor, will gain impetus, until a substantial situation is evidenced in the spring and summer months.

At Pittsburgh, the year 1918 carries the much-to-be-forgotten distinction of being the worst year for building work in the city for a period of thirty years. A total of 2,473 building permits were issued for construction work aggregating \$7,781,729, as against 3,582 permits in 1917, representing construction to the amount of \$11,328,303. The banner year for building in the city during the last

decade was 1914, which totaled \$18,447,752. In the year past 182 dwellings, 13 warehouses and 7 large mill buildings were built, as against 311 dwellings, and similarly increased number of warehouses and mills in 1917. The new year is expected to show a decided improvement and projected work is estimated at \$5,900,000 for the early months alone, including the forthcoming spring season, when a real building movement is anticipated.

In line with the extensive demand for homes at Philadelphia, Pa., and outlying districts, the Philadelphia Real Estate Board is formulating plans for a "Own Your Own Home" campaign, to be inaugurated early in the spring. The campaign will take the form of an important civic movement, to educate and point out to everyone in the vicinity the value of owning a home. An appropriation will be made for an advertising campaign, to be under the direction of William H. Wilson, who will act as director of publicity. It is maintained that the proposed work will not only be of direct benefit to the man or woman concerned, but will prove of advantage to every industry, trade, business and institution in the city. The movement is expected to result in the sale of more homes during the coming year than in any other previous year in the history of the city. It will be coordinated with the plan among the building interests to build 10,000 new houses in the city during the spring and summer.

With the turn of the year, the building situation at Philadelphia, Pa., bears indication of working towards a decided improvement. Many prominent builders in this section hold that 1919 will be a banner twelvemonth for building work and the general disposition is one to "go to it" both in the construction of needed dwellings and industrial works. The tightness of mortgage funds and the uncertain element in the present prices of building materials, as well as existing labor wage scales, are the factors which are holding back prospective builders. The removal, or even partial removal of these obstacles, will bring about a great change. Notwithstanding the wide demand for homes in Philadelphia during the past year, only 900 two-story houses were constructed by private capital at a total cost of close to \$3,000,000, while 46 three-story houses were built at an outlay of \$307,000. The Government housing developments in this district embraced large projects, but were for the definite purpose of housing the workers of the shipyards, and in no sense to be associated with private enterprises. The federal work included the erection of 1,554 homes in the Fortieth Ward, each two-story, costing \$3,904,500, and about 700 homes in the Thirty-ninth Ward, two and three-story, costing \$2,157,000. Other new buildings constructed by the Government in this period brought the total Federal work up to \$7,852,600. Among the other notable building items during the past year were the gun manufacturing plant of the Midvale Steel & Ordnance Co., Fox Street and Roberts Avenue, aggregating \$1,466,000 and the United States Emergency Hospital on Gray's Ferry Road, costing \$325,000.


Tennessee

J. W. Wells Brick Co., Chattanooga, Tenn., was incorporated with a capital stock of \$50,000, by J. W. Wells, R. N. Logan, Virgie E. Wells, Grace Wells and Virgie Logan, for the manufacture of brick.

Wisconsin

Louis E. Meir recently took over the interests of his brother in the La Crosse Building Supply Co., La Crosse,

SERVICE



MACHINE NO. 47274

1911	O.K. AEB
1912	O.K. AEB
1913	O.K. AEB
1914	O.K. C.P.F.
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Once each year we aim to send an expert to inspect every Proctor Dryer in operation. If the dryer isn't right, he MAKES IT RIGHT before leaving. We want every Proctor Dryer to be O. K. all the time.

Naturally, this service is of great value to the user and is appreciated, and this is one of the reasons why owners are always so willing to recommend Proctor Dryers.

It pays well to constantly keep a dryer in top-notch condition. Capacity should not be permitted to diminish. Other things being constant, power requirements should always be the same year-in-year-out. Heat requirements should never vary where moisture removal and quantity and quality of material being dried do not vary. A dryer should be just as efficient 10 years after installation as on the day our engineer put his initial O. K. on the machine.

Yes, it Pays to install a Proctor Dryer from the Service standpoint alone.



In addition we offer minimum floor space, minimum labor requirements, minimum heat and power consumption, maximum capacity, absolute constancy of temperature and humidity conditions and highest quality product.

Tell us your drying problem in detail in your first letter so that we can advise fully and frankly and quote definite figures in our first reply. Promptness and accuracy are part of our regular service.

The Philadelphia Textile Machinery Company

Builders of Drying Machinery
Seventh Street and Tabor Road
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PROVIDENCE, R. I. Howard Building	CHICAGO, ILL. Hearst Building
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Equipment Supplies and Materials

FROM an overstock of general construction and mill supplies, we offer for immediate shipment, subject to prior sale, the following:

Iron and Steel Products

Machinery of all kinds.
Locomotives
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Water Tube Boilers
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Tanks
Sheet Iron
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Electric Motors
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Copper Wire
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Hardware of all kinds
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Chemical Supplies
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Work Uniforms
Woolen Shirts
Shoes

This is a partial list of the materials that we have on hand. If you need anything in these or similar lines write us. We may have exactly what you want. We will submit specifications and prices promptly. Please be careful to address

X. M. S. Department

Hercules Powder Co.
Wilmington, Del.

Wis., which was organized four years ago. Since the partnership was dissolved, Mr. Meir has decided to run the business under his own name. Another exhibit room will be installed after February 1st, which will have all of the newest textures and shades in face brick. This additional room will make a total display of 5,500 brick laid in mortar joints, the largest in the state of Wisconsin, outside of Milwaukee. Mr. Meir will conduct the business by the same methods and under the same business principles as heretofore.

Canada

N. B. Davis, M. A., is now directing the ceramic division of M. J. O'Brien Ltd., Ottawa, Ont.

F. B. McFarran, manager of the Interprovincial Brick Co., Toronto, is in the hospital with the "flu."

W. H. Freeborn, of the Allen Brick Co., Brantford, Ont., was elected an alderman of that city at the recent elections.

The British Columbia Pottery Co., Ltd., Victoria, B. C., has been discontinued. The plant and other assets are to be sold at auction.

Hinde Bros., West Toronto, who have been burning wood are contemplating the installation of either oil burners or coal grates.

Andrew Dods, manager of the Ontario Sewer Pipe Co., Mimico, Ont., has been elected Utilities Commissioner by acclamation.

John S. McCannell, president of the Milton (Ont.) Pressed Brick Co., has purchased property on Lamport Street, Rosedale, Toronto, and will erect a house thereon.

Thomas Kennedy, Jr., son of Thomas Kennedy, president of the Dominion Sewer Pipe Co., Swansea, Ont., has received his honorable discharge from the Royal Canadian Dragoons.

The Interprovincial Brick Co., Toronto, (plant at Cheltenham) have issued a very attractive calendar for 1919 showing light, medium and dark flecked pressed brick and red pressed brick.

Beique & Charlton, consulting engineers, 120 St. James Street, Montreal, Que., have been commissioned to make a report on the installation of a large brickmaking plant. They wish to receive catalogs from manufacturers of brick machinery.

C. A. Millar, president of Prices Limited, and vice-president of the Price-Cummings Co., and Isaac Price, Toronto, Ont., announce that these companies have decided to put both plants in shape immediately for opening in the spring.

At a luncheon at the Ontario Club, Toronto, Ont., on December 23, the executive and several other members of the Canadian National Clay Products Association presented the secretary, Gordon C. Keith, with a purse. Mrs. Keith was remembered with flowers.

Permanent memorial arches are proposed for some centers, including Toronto. The following committee of the Canadian National Clay Products Association has been appointed to see that these are built of brick: G. Angus German (chairman), F. B. McFarran, J. F. M. Stewart, J. S. McCannell, Wm. Burgess and Thomas Kennedy.

Merkleys Limited were recently incorporated and have taken over the plant of the Peerless Brick & Tile Co., Ottawa, Ont. Additions will be made to permit the manufac-

ture of all lines of hollow ware. Their temporary office is at 9 Castle Building, Ottawa. Under the name of Merkley Brothers Limited, they carry on a building supply business at Casselman, Ont., and have been connected with brick manufacturing for years.

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New Brick Plant in Manitoba

The Reliance Investment & Developing Co., Hanover, Ont., is erecting a brick and tile plant in Southern Manitoba under the direction of A. E. Hilder, 709 McArthur Building, Winnipeg. The main structure is now completed and is 80x170 ft. with provision for extension. A large power plant has been erected with a 150 h. p. engine and provision for further additions to the power equipment. In the manufacturing room are press and auger and a roller conveyor. Running the full length of the building is a galleried dryer built of concrete.

Mr. Hilder states that fine salt glazed sewer pipe, conduits for underground wiring, brick, hollow building block and field tile can be made as well as flower pots and jardiniers. The plant is located near Winnipeg and has railway connections with that city.

Before proceeding with the plant Mr. Hilder made a series of tests. In all there were six kilns of materials burned, including 357 samples. The hollow ware was burned at 1,900 deg. Fahr., face brick at 2,100 deg. and glazed ware at 2,210 deg.

The head office of the company is at Hanover, Ont., and the western office at 709 McArthur Building, Winnipeg. The officers are: president, R. J. Ball, Hanover; vice-president, Henry Peppler, Hanover; secretary-treasurer, John Taylor, Hanover; president Western Advisory Board, J. J. Kilgour, Winnipeg; western representative and manager of the clay products plant, A. E. Hilder. The company is capitalized at \$500,000. Mr. Hilder is well known in the clay products business and was formerly manager of the Canada Tile & Fireproofing Co., at Carmen, Man.

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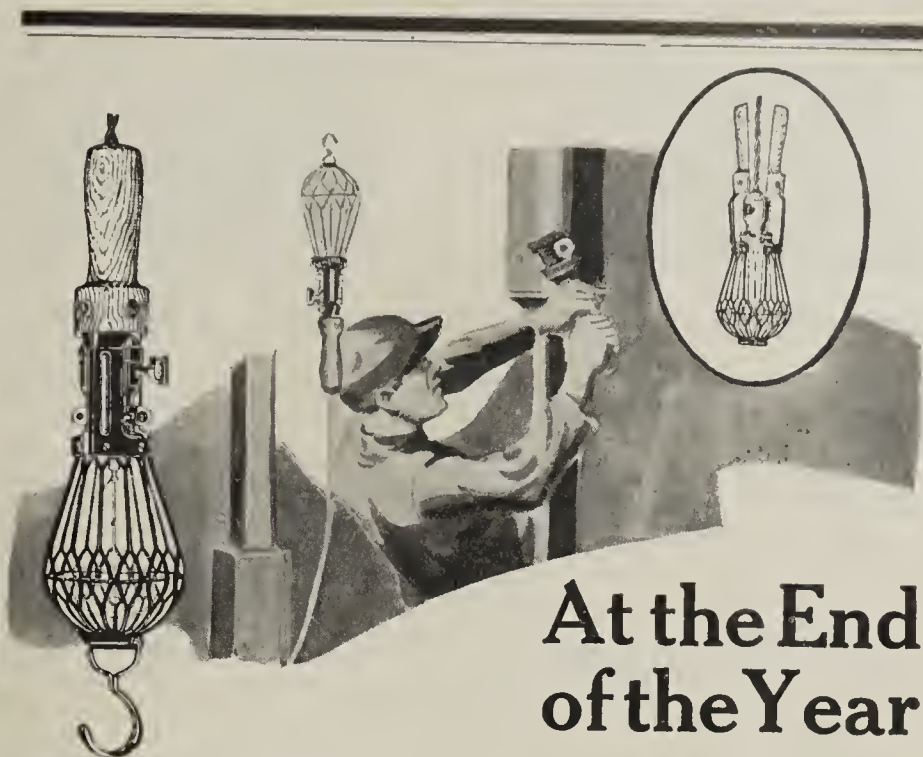
Predicts Big Business for Canada

Thomas Kennedy, president of the Dominion Sewer Pipe Co., Swansea, Ontario, Canada, and president of the Canadian National Clay Products Association, when interviewed as to the present outlook, said: "We shall run both of our plants this winter at Swansea and Aldershot. There are already prospects of a large amount of work which will make us very busy.

"The building plan of the Dominion Government, setting aside \$25,000,000 for this purpose, is good, but of course, depends to some extent upon the manner of its administration. This plan will help all the building and construction industries, including the brick and sewer pipe business and clay products business generally.

"The construction of good roads which will undoubtedly be undertaken in 1919 will help the sewer pipe industry. A great amount was used in the construction of the Toronto and Hamilton highway and altho it is not in doubt, it is an absolute necessity to any good road.

"It seems to be the general feeling that municipal business will now go ahead. The Dominion Government is urging the municipalities to start the necessary work in their respective districts and the railways to proceed with renewing their worn-out equipment. The Welland Canal and Toronto Harbor are examples of important projects now going ahead, stimulating industry in the country.



At the End of the Year

When the balance sheet shows the wisdom or error of the year's purchases you will find the

Flexco Split Handle Portable

has been a warranted investment. Used in connection with Flexco Lamp Guard, it saves many times its cost in the protection of electric bulbs.

Every brickyard, every kiln, factory, mill, or warehouse needs at least one portable light. Flexco Split Handle attaches in an instant to Flexco or Flexco-Lok Lamp Guard and hinges with it as a unit. It needs no wiring because the wire from the socket runs through grooves in the handle.

Unguarded Lamps a Source of Danger

Every unguarded electric lamp is a source of danger from fire and flying glass—is subject to theft and loss by breakage.

FLEXCO-LOK GUARDS place a guard of steel around each bulb that can be removed only with a key. They can be installed in a minute and securely locked against theft and breakage. They cost less than a single broken lamp.

Write for particulars about Flexco-Lok Guards and Alligator Steel Belt Lacing. Also mail the coupon for free trial of Flexco Split Handle Portable. This is a limited, special offer.

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COUPON

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Gentlemen: Please send me Flexco Split Handle for 30 days' free trial. If I am satisfied at the end of this period, I shall remit 85 cents and retain possession. Otherwise I shall return it. I am now using Flexco Guards size.....

I am not at present using Flexco Guards. Please send complete outfit to fit..... watt bulb. In this case I shall remit \$1.35 if it is not returned within 30 days.

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Name of Firm

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Brick Work (Walker).....	.65
Brickwork and Masonry.....	3.00
Building Construction and Superintendence, Part 1, Masons' Work.....	6.00
Bungalows, Camps and Mountain Houses.....	2.00
Ceramic Calculations	1.25
Ceramic Industries—A Treatise On (E. Bourry).....	5.00
Clay and Pottery Industries.....	5.00
Clays: Their Occurrence, Properties and Uses....	5.00
Clayworker's Handbook.....	2.50
Clay-Working Problems.....	1.50
Engines and Boilers.....	1.00
Engineering for Land Drainage.....	2.00
Estimating Frame and Brick Houses.....	1.00
Finding and Stopping Waste in Modern Boiler Rooms, Vol 2.....	1.00
Garages and Motor Boat Houses.....	1.00
Glazer's Book.....	1.25
Hollow Tile House, The.....	2.50
How to Analyze Clay.....	2.00
How to Build Up Furnace Efficiency.....	1.00
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Manufacture of Glazed Brick.....	2.50
Manufacture of Roofing Tile.....	1.25
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Observations on Pottery.....	.60
One Hundred Bungalows.....	.50
Pottery	1.25
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Practical Farm Drainage.....	1.50
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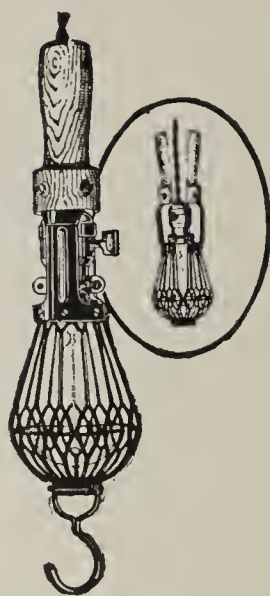
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MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers



A new departure in portable lamp guards is shown in the illustration of the Flexco split handle which can be quickly attached to the well known Flexco expanded steel lamp guards made by the Flexible Steel Lacing Co., of Chicago.

This "portable" successfully fills a demand for a substantial "handle guard" which does not need to be wired. The valves of the guard, including the handle itself, open wide from the hinge at the bottom of the guard and can instantly be closed and locked around the socket at the end of any extension cord. The cord itself runs through grooves in the handle.

The convenience of this new product will be appreciated by the motorist in his garage as well as in every factory, mill or warehouse, because it permits light to be safely carried to dark corners. Fire danger is avoided and lamp users readily see the advantage and economy, as the modest cost of the guard is quickly repaid through prevention of lamp breakage.

✻ ✻ ✻

Are You in Need of Finances?

In this period of reconstruction there is undoubtedly a large number of clay product plant managers who are planning extensions, and many who are contemplating complete new plants.

There is bound to be a constantly increased demand for all kinds of clay products and before the end of 1919 this demand will undoubtedly be very much greater for some branches of the industry than it has been in any past year.

Plant managers have learned a lesson from the war that stands out above all other lessons, and this is that efficiency in plant operation must be the chief consideration if a plant is to pay a profit. It is simply going to be impossible to operate under old conditions, and particularly with old equipment, without showing a loss. This can't be done in a brick plant any more than it is possible to operate an automobile after the tires are blown out without soon damaging the car beyond reconstruction.

It would seem quite natural for clay-products managers to turn for financial assistance to a company like F. W. Morgan & Co., 1319 First National Bank Building Chicago, because of the very large experience they have had in work of this kind covering a period of several years. This company has had an opportunity to finance a very large number of plants, and the history of each of these is interesting. They will be glad to supply information as to their work in this connection to any plant manager who request it, and at the present time they are in particularly good position to take on the financing of limited number of good clay plants.

✻ ✻ ✻

The Clarage Fan Co., Kalamazoo, Mich., are glad indeed to announce the return of Lieut. Louis O. Monroe to their organization. Lieutenant Monroe assumed duty as manager of sales and chief engineer for this company on January first. It will be remembered that previous to entering service Mr. Monroe was in charge of the Chicago office of the Clarage Fan Co.

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups," to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER.

Back Up Your Dealer

AT A MEETING of building supply dealers which the writer attended recently, a very interesting debate developed around the subject of whether or not prices for materials, including clay products, would remain at their present level or drop in the near future. As usual, there were varying shades of opinions but it was the unanimous declaration that there would not be, nor should there be any decrease in prices covering building materials for some time at least. The reason the dealers thought there should not be any decrease in prices was due to the desirability of stability at the present time.

The opinion was expressed that should there be any reduction in any commodity it would set contractors and prospective builders to waiting until the next reduction in the next commodity. This would defeat the universal plan to get building operations moving toward activity—much needed at this time.

Moreover, the dealers said that they could not possibly reduce their prices until they received a similar reduction from the manufacturer of materials. It was pointed out that with labor at its present wage level, and the cost of living as high as it is, as well as the prevailing cost of coal and other supplies, it was not possible for the manufacturer to make much of a cut in quotations. One dealer suggested that it would help matters considerably in his local district if the manufacturers of the materials which he sold would make a signed statement for his use, setting forth the reasons why prices cannot be reduced at the present time. He could then show this to architects, builders and contractors, and demonstrate the folly of postponing operations in the hope of getting reduced prices.

Back your dealer up by furnishing him with whatever statement he needs. You and he need to work very closely together at this time especially, in order to keep things going and increase the speed with which building plans move to realization.

* * *

Readjustment—Not Reconstruction

IT IS SURPASSING STRANGE how human beings will grasp a word, idea or slogan, and if the proper conditions exist, pass it along from one to another until the whole nation has the word, idea

or slogan on its lips. When this happens in the popular music business the production is called a "hit". The same is true of theatricals, and if some bright intellect creates a new style of wearing apparel which becomes "all the rage" the designer has every reason to feel successful.

The innocent looking, common, ordinary word "reconstruction" probably never had any designs upon popularity but the ending of the world war, bringing a stop to the business of slaughter and ushering in a new task of building again material things that have been destroyed in the eruption of hell on earth, bequeathed to that word a wealth of popularity.

"Reconstruction" was very familiar to those who remember the days following the Civil War, both in the North and in the South. Every one understood what it meant, for there were vast areas of devastated, ruined cities which had to be replaced. Then again, the word had a very definite meaning with regard to governmental affairs since the seceding states had to be restored to their original status.

However, at the present writing there are no piles of dust and debris which mark the spot where a city once stood as is the case in so large a portion of fair France. No crops in the good old United States of America have been destroyed by the invader's torch and the peasant's cottage still stands where it always has stood. "Reconstruction," therefore, is ill-advised as describing conditions here in America following the close of the great European war. Charles A. Bookwalter, former mayor of Indianapolis, in an address recently said that he did not like "reconstruction" but preferred "readjustment" as applied to the task which is set before America in these days and the days that are to come. There is a psychological value in the word "readjustment" as against "reconstruction." There is no use of painting any picture any more black than it really is. It is far better to say "readjustment" when speaking of the changes that it is necessary to bring about in order that normal conditions may again exist, than to speak of this period as being the "reconstruction period," thus giving impression that America has ruined cities to rebuild, devastated land to restore, weakened finances to recuperate, pauperized people to feed, and so forth, down the list of discouraging duties that would face the United States if the war had been fought on American soil instead of European.

As one business man has said, we can all afford to talk in an encouraging manner at this time. There-

fore, we move that the word "reconstruction" be junked and "readjustment" be substituted as more properly describing Uncle Sam's job at the present time. Does any one second the motion?

* * *

An Antidote for Bolshevism

A BUSINESS MAN made the encouraging statement the other day that the Bolsheviki and their breed, the red flag anarchists, will never get a foot hold in America because so many of our working men own their own homes.

Reflection upon this fact will soon convince one of the truth of this declaration. If a man owns his own home and consequently pays taxes upon his property, he will naturally be tremendously interested in a stable form of government which will protect his investment. The little garden in the summer and the comfortable fireside in winter, are not usually conducive to violent and armed uprisings nor the wanton destruction of real estate. A home owner is usually a peace-loving and law-abiding citizen. He does not care to move from city to city since his property would have to be sold, perhaps at a sacrifice, and usually he does not want to do that. Rovers are a menace to a nation, besides they are not a substantial part of the industrial fabric.

Home owning as an antidote for Bolshevism is a splendid argument used on the banker and other local financial interests in an effort to loosen up the purse strings of those who have mortgage money. A Dayton business man stated recently that one of the biggest difficulties which has to be overcome in his city before much home building can proceed, is the present attitude of a large building and loan association which insists on loaning money on the old basis.

It would do no good to appeal to the workingman now not owning a home to build or purchase one in order to guard against Bolshevism. That is not an argument to use with the prospective owner but it can be used to effect, as has already been stated, upon those who have money to lend and who ought to release it without delay.

* * *

Break Loose from That Chair!

MAN is naturally lazy. He would rather swim with the current than against it. Those who are not lazy are usually self-centered. It is perfectly easy to understand why a manufacturer, busily engaged in his own business, can soon lose sight of the outside world and fail to know what others in his industry are doing. It is the exceptional man that rises above his physical handicaps, and his environment to a position of prominence and prosperity.

If you feel that you have been attacked by the hook worm or if you are polishing the seat of your trousers by too frequent contact with the office chair, put some socks and a shirt in your bag, buy a railroad ticket to Pittsburgh, Chicago, Milwaukee, Minneapolis, or any other town where a clay convention is scheduled and find out what other men in your business are doing. Learn what is making them successful. It would be a good thing for the business for you to get away for a few days and get some new ideas.

The week from February 3 to 8 will be occupied by the annual meetings of the American Ceramic Society and the National Brick Manufacturers Association, Pittsburgh, Pa., at the Fort Pitt and William Penn Hotels. The following week from February 10 to 14 will be marked by the annual meetings of the American Face Brick Association, Brick Manufacturers Association of America, and the Face Brick Dealers Association of America, all at Chicago, at the Edgewater Beach and La Salle Hotels. Other conventions of interest and importance to you are given below.

CONVENTIONS IN PROSPECT

January 30 and 31—Wisconsin Clay Manufacturers' Association, Republican House, Milwaukee, Wis.

February 3, 4 and 5—American Ceramic Society, Fort Pitt Hotel, Pittsburgh, Pa.

February 5, 6 and 7—National Brick Manufacturers' Association, William Penn Hotel, Pittsburgh, Pa.

February 10, 11 and 12—American Face Brick Association, Edgewater Beach Hotel, Chicago, Ill.

February 10, 11 and 12—Face Brick Dealers' Association of America, Edgewater Beach Hotel, Chicago, Ill. The above are the correct dates. Convention announced as on February 13, 14 and 15 in December 31 issue. These dates have since been changed to the above.

February 12, 13 and 14—Common Brick Manufacturers' Association of America, Hotel La Salle, Chicago, Ill.

February 20 and 21—Northwestern Clay Association, West Hotel, Minneapolis, Minn.

May 26, 27 and 28—Canadian National Clay Products Association, Montreal Builders Exchange, Montreal, Que.

RESERVATIONS INDICATE



HARRY A. WHEELER
President of the Chamber of Commerce of the United States, Who Will Address the Brick Men at Record-Breaking Banquet.

AS THE OPENING SESSION of the big week for brick in Chicago, February 10 to 15, approaches, the programs of the three associations are nearing completion and most of the details concerning them are now available. These are given in the following paragraphs, which it should be remembered are in addition to what has already been printed in the January 14 issue of *Brick and Clay Record*.

By far the biggest event will be the joint associational dinner on Wednesday evening, February 12, at the Edgewater Beach Hotel, when the common brick and face brick manufacturers, as well as the face brick dealers, will get together in what it is believed will be the largest gathering of brick men ever held.

For the benefit of calloused convention goers and blasé banquet "bugs" let it be emphatically stated that this associational dinner will be unlike the stereotyped "feed." The usual "gas attack" launched by not less than a dozen speakers will be conspicuous by its absence and in its place there will probably be only two speakers (not of the after-dinner variety) who will give brief, concise, to-the-point messages on some vital question concerning the brick manufacturing and merchandising business.

Harry A. Wheeler, president of the Chamber of Commerce of the United States, Chicago bank official, and speaker par excellence, will be the "head liner" of the evening. Mr. Wheeler has been invited, has accepted, and is expected to talk to the brick manufacturers and dealers on an unannounced subject. It is needless to say that Mr. Wheeler's talk will be well worth while.

In addition to Mr. Wheeler, there will be another speaker of national prominence and ability, whose name cannot be given at this time.

Capping the climax of the banquet arrangements is the

Face Brick Dealers to Have Twice as Many Present as Last Year—Face and Common Brick Manufacturers Assured of Increased Support—Facts Forecast Record-Breaking Convention for the American Face Brick Association, Common Brick Manufacturers Association of America, and Face Brick Dealers Association of America, February 10 to 15—Harry A. Wheeler to Talk to Brick Men—William D. Gates Slated for Toastmaster at Largest Associational Dinner

fact that William D. Gates, president of the American Terra Cotta & Ceramic Co., is to be toastmaster. Those who know Mr. Gates know that he will make a good toastmaster. His sharp wit and humorous anecdotes are a permanent fixture of clayworking good fellowship.

Do not be afraid to come to the banquet, fearing that you will be bored by a third rate cabaret. There will be no such thing on the program.

INSURANCE EXPERT WILL ADDRESS COMMON BRICK MAKERS

The program for the first annual meeting of the Common Brick Manufacturers' Association of America, which will be held February 12, 13 and 14, at the Hotel La Salle, Chicago, is being rounded out and the finishing touches are being applied. The details of the program are about the same as announced in the January 14 issue of *Brick and Clay Record* with the addition that a speaker has been obtained for the subject, "Conducting Our Own Liability and Fire Insurance." This topic, it will be remembered, is scheduled for 4 p. m., Thursday, February 13.

H. R. Corbett, of Chicago, a well known insurance expert, will discuss this subject. Mr. Corbett has made an extensive study of insurance statistics in the clay industry and will have some very interesting things to say to the common brick manufacturers. He has been working for some time on a plan for inter-insurance which, if made effective, would save brick manufacturers a large amount of money on their annual fire insurance premiums. Mr. Corbett has shown that the expense of operating a stock company is

GCHICAGO ATTENDANCE

41.62 per cent. while the expense of operating on the inter-insurance plan amounts to only twenty per cent., leaving eight per cent. available for payment of losses as compared with only 56.69 per cent. available for payment of losses in the case of the old-line insurance company.

This will be an interesting talk for every brick manufacturer. More than that, it will show him how he can actually save money.

RATES AT THE LA SALLE HOTEL

One Person

Room with detached bath \$2, \$2.50 and \$3.
Room with private bath \$3, \$3.50, \$4, \$5.

Two Persons

Room with detached bath \$3, \$3.50 and \$4.
Room with private bath—Double room, \$5 to \$8.
Single room with double bed, \$4, \$4.50, \$5.

Two Connecting Rooms with Bath

Two persons—\$5 to \$8.
Three persons—\$6 to \$9.
Four persons—\$7 to \$12.

Room with private bath—Double room, \$5 to \$8.

The LaSalle Hotel, where the Common Brick Manufacturers Association will meet, is noted for its good food, and



Edgewater Beach Hotel, One of Chicago's North Shore "Beauty Spots,"
Where the Face Brick Manufacturers Will Convene. For
Information on Rates, See Page 121.

as usual will serve excellent a la carte meals. In addition to these, however, it will be possible to get a very good club breakfast for sixty-five cents, luncheon seventy-five cents, and dinner one dollar, in the "Dutch Room." Those who have partaken of these meals will agree that they are all that could possibly be desired in the way of quality and service.

FACE BRICK INDUSTRY ON EVE OF BIG BOOM

There seems now to be no question that the conference of the face brick industry, which will meet at Chicago, February 10, 11 and 12, at the Edgewater Beach Hotel, will mark an epoch in the industry. In the first place, the problems to be handled are the most compelling which the industry has ever faced, and in the second place there will be a more representative gathering of face brick manufacturers at that time than has ever before been gathered together at the same time and place. Requests for reservations from both manufacturers and dealers indicate the soundness of the latter prediction.

COMING TO LEARN ALL POSSIBLE

Face brick manufacturers are going to Chicago to learn all they possibly can with regard to business conditions throughout the country, to get an idea as to what the other manufacturers are going to do regarding important items of costs, how much business may be expected in 1919, condition of stocks and orders as compared with 1918 and with the hope that it will be possible for the whole industry to agree upon certain well defined plans, the uniform adoption of which is generally recognized to be necessary.

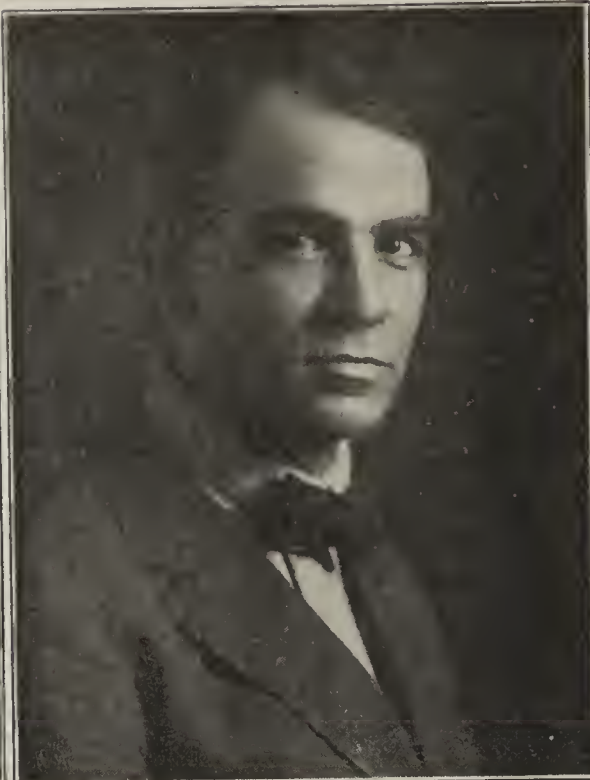
In order that the voice of the individual manufacturer



La Salle Hotel, Chicago, Where Common Brick Manufacturers
Will Meet in Annual Session from February 12 to 14.



PAUL BELDEN
Director American Face Brick Association.



TOM W. GREEN
Director Common Brick Manufacturers Association



J. W. MORRISON
Trustee Face Brick Dealers' Association.

may be heard and that every man's ideas can be incorporated, if found wise, the various divisions of the association, after the completion of their routine business, will give consideration to a tentative program which will be furnished with the intention of stimulating thought along the lines of the most pressing needs in the business. All divisions will be requested to incorporate their ideas in properly drawn up resolutions, all of which will be submitted to a resolutions committee, which, after harmonizing duplicate resolutions and refining those which may need it, will be submitted to the entire membership for action.

TO TALK ON FREIGHT RATE PROBLEM

In order to aid the convention in formulating its ideas clearly, prominent speakers will be introduced in the first sessions. M. F. Gallagher, of the law firm of Gallagher, Kohlsaat & Rinaker, Chicago, will speak on "Our Freight Rate Problem." Mr. Gallagher is exceptionally equipped to talk on this subject, as he has been retained by various brick interests for the last year or more, and has followed the situation closely all thru its ramifications during the last nine months. He represented the brick interests in the joint protest which was made to the railroad administration last June.

E. H. Scull, manager system staff, Ernest & Ernest, Chicago, will address the meeting along appropriate lines. Mr. Scull is one of the foremost men in the Ernest & Ernest organization, and as he is now in conference with various members of the face brick industry, there is no doubt but he will bring out many phases of the situation which have not been universally understood in the past.

There may be one or two other speakers. If so, they will be men of national reputation, and will confine themselves to subjects which are next to the hearts of those present.

There appears to be a general feeling that the face brick industry is on the eve of a big boom. It must be exceedingly gratifying to the industry to observe the interest which is now being displayed almost universally by manufacturers who are anxious to co-operate in order that full advantage can be taken of any favorable situation which may arise, and, incidentally, that the industry may possibly recoup some of the losses growing out of the war.

FACTS INDICATE DEALER ATTENDANCE WILL BE DOUBLED

It is reported that everything is going along nicely with regard to the plans and program for the forthcoming annual meeting of the Face Brick Dealers' Association of America, and indications point to a good convention with a large attendance. Reservations have already been made at the Edgewater Beach Hotel for twice as many as attended the convention last year. It seems very remarkable that this number should make reservations so far in advance, and even tho no more reservations for rooms come in other than those already received, it would indicate a splendid meeting. Undoubtedly a great many more reservations will be made between the present writing and the opening day of the convention. It is suggested that those who have not already made reservations do so without further delay and those who are still undecided as to whether or not they should come, had better decide immediately that Chicago is the place for them during the period from February 10 to 12.

The proposed conference of secretaries of the face brick dealer clubs in various cities of the United States is developing not a little interest. It is planned to hold this meeting on Monday, February 10, at 4 p. m. A questionnaire has been mailed to ascertain how many cities have organized local clubs and it has been found that quite a number have. These secretaries have been invited to attend the secretary conference.

Details regarding the program for Tuesday afternoon, February 11, are now available, and it is announced that the first question to be brought up for discussion will be "How the Dealer Can Best Serve the Manufacturer." R. D. T. Hollowell, secretary of the American Face Brick Association, will lead the discussion.

The second subject will be "The Reconstruction Period and What It Will Mean to the Brick Dealers," by B. Mifflin Hood, president B. Mifflin Hood Brick Co., Atlanta, Ga.

The third question for discussion is "Co-operation, the Keynote of Successful Brick Club Organization," by F. N. Blanchard, of Lincoln, Nebr.

The face brick dealers planning to attend the convention are requested to give these subjects considerable thought, as it is desired to hear from all of the members on these topics as well as from him who opens the discussion.

KEEP YOUR EYES OPEN

There may be a surprise in store for the delegates on Wednesday morning, February 12. The program committee is working on something special but is not as yet able to make a definite announcement. Suffice it to say at this time that you may miss something by being absent, so you had better arrange to be "on the job" when the gavel falls so that nothing "gets by" you.

The dealers will be given a rare treat on Wednesday afternoon at the installation of the new officers at which Herman L. Matz, of the S. S. Kimbell Brick Co., Chicago, and president of the local face brick dealers association, will officiate. All who know Mr. Matz will not want to miss his trite remarks and forceful message when he installs the new officers. There will also be a discussion by the new officers of the plans of the coming year.

EXCELLENT SERVICE AWAITS GUESTS

One of the things that will be different at the annual meetings of the American Face Brick Association and the Face Brick Dealers Association of America, will be the splendid service and painstaking attention accorded to the special guests. W. M. Dewey, manager of the hotel, has a reputation for making people comfortable. He has two assistants whose business it will be to see that every brickman is well taken care of.

As has already been announced, all delegates to the conventions of the American Face Brick Association, and the Face Brick Dealers Association of America, will register under the European plan, for which a special rate has been made of \$2 per day.

A very good club breakfast can be obtained in the main dining room of the hotel for from forty to eighty-five cents, club luncheon seventy-five cents, and club dinner at \$1, \$1.50 and \$2. These meals, of course, are in addition to the regular a la carte service.

There is also a "coffee shop" in the hotel where the same food is served as in the main dining room at a somewhat lower cost because of a simpler service.

Industrial Commission Organized by New Jersey Manufacturers' Council

Following its recent Readjustment Convention at Newark, N. J., the Manufacturers' Council of New Jersey has perfected the organization of its Industrial Commission, as voted at that time. This commission will be formed of five committees representing manufacturing interests, labor, finance, agriculture and public utilities, with each committee composed of five members. The commission is the first body of its kind ever organized in the country and will bring together in common council leading men and interests in the different classes as arranged. The commission is designed primarily, to bring about business readjustment as required by the close of the war in all branches of industry in the state, including brick, clay, tile and affiliated lines, with the least possible disturbance to the different industries and their employes. The initial meeting, held January 22 at the Robert Treat Hotel, Newark, took the form of a dinner by Warren C. King, president of the Council to the various members of the commission. Early meetings for business discussion and concrete action have been arranged.

The members of the committee on manufacture are: Warren C. King, president of the King Chemical Co.; Austen Colgate, Colgate & Co., Jersey City; Kirk Brown, president of the Condensite Co. of America, Bloomfield; Charles Edison, president, Thomas A. Edison, West Orange; Peter Smith, the Barbour Flax Spinning Co., Paterson; and ex-officio, John W. Smith, executive secretary of the Council. Elwood S. Bartlett, president of the New Jersey State Bankers' Association heads the committee on finance; Arthur A. Quinn, president of the New Jersey State Federation of Labor, the committee on labor; W. G. Besler, president, the Central Railroad of New Jersey, the committee on public utilities; and Jacob G. Lipman, dean and director of the New Jersey Agricultural Experiment Station, New Brunswick, the committee on agriculture.



The Lavino Refractories Co. has been incorporated at Wilmington, Del., to mine, produce, refine and manufacture clay and clay products. The capital stock is \$1,000,000.



R. F. D. HOLLOWELL
Secretary American Face Brick Association.



W. H. GIFFORD
Trustee Face Brick Dealers' Association.



JOS. W. MOULDING
Director American Face Brick Association.

CERAMIC SOCIETY PROGRAM

ASSURES PROFITABLE MEETING

List of Instructive and Interesting Technical Papers to be Presented at Coming Gathering Includes Discussion of Kiln and Dryer Problems That Will be of Great Interest to All Clay Men

IN ADDITION to the usually good program of interesting technical papers, a list of which is given below, there are several other features that will attract clayworkers and ceramists to the twentieth birthday of the American Ceramic Society whose convention, as announced in the January 14 issue of *Brick and Clay Record*, will be held at the Fort Pitt Hotel, Pittsburgh, Pa., beginning on Monday, February 3, and extending thru during the following two or three days.

AN OPPORTUNITY TO VISIT THE BUREAU OF STANDARDS

You have undoubtedly been told by some fellow clayworker of an interesting and instructive trip which he has taken at some time or other, thru the United States Bureau of Standards at Pittsburgh under the guidance of Prof. Bleininger, or at the very least, you have heard of the wonderful scientific research which has been going on during the past two or three years in the clay products section of this department. An unusually good opportunity will be afforded to those coming to the convention to see this institution which has been a factor of great importance to the winning of the war and an adviser to a large number of clay products men who owe a great deal to the Bureau of Standards for the progress they have made in the quality of their ware. Do not pass up this opportunity; it alone is worth going to Pittsburgh for.

MELLON INSTITUTE LABORATORIES TO BE OPEN

The Mellon Institute laboratories will also be open for inspection. For the benefit of those who do not know, it be said that this institution offers possibilities to clay products manufacturers to have a thoro physical and chemical investigation made of their product which will enable them to find the weak points and aid in the improvement of the ware. The Refractories Manufacturers' Association has a fellowship there under the direction of Raymond M. Howe, and several assistants. With the help of this fellowship the refractories association has been able to do some research work which has resulted in being of great benefit to all of its members.

A large number of whiteware men from the East Liverpool (Ohio) pottery district will attend the meeting and papers will be read dealing especially with their phase of the work.

ORGANIZATION LEADERS FOR PROFESSIONAL DIVISIONS APPOINTED

President Homer F. Staley, of the society, has appointed the following men to act as organization leaders of the professional divisions which are to be formed in the following industries: Brick and tile, M. W. Blair; refractories, A. V. Bleininger; abrasives, R. C. Purdy; white-ware and porcelain, C. L. Sebring; glass technology, C. H. Kerr; enameled metals, R. D. Landrum; terra cotta and faience,

F. B. Ortman. Members are urgently requested not to wait for an appeal from the leaders but to lend support by arousing interest of other men in their industry as well as becoming actively interested themselves.

If you will scan thru the following list of papers you will find some of especial interest to you tho you be a manufacture of common brick or of high grade porcelain.

1. Bond Clays Suitable for Graphite Crucibles, M. Grover Babcock, Pittsburgh, Pa.
2. Notes on the Properties of Some Bonding Clays and Their Mixtures with Graphite, G. H. Brown and E. C. Hill, New Brunswick, N. J.
3. Tests on Bond Clays for Graphite Crucibles, M. C. Booze, Columbus, Ohio.
4. Direct Volume Determination by Pycnometer, J. B. Shaw, Alfred, N. Y.
5. The Effect of Electrolytes on Bodies Containing Graphite, H. G. Schurecht, Columbus, Ohio.
6. The Effect of the Shape of Graphite Flakes on the Structure and Durability of Crucibles, Reinhardt Thiessen, Columbus, Ohio.
7. Effects of Variable Pressure and Tar Content on the Brick-etting of Alabama Graphite, R. T. Stull and H. G. Schurecht, Columbus, Ohio.
8. Fusibility of Graphite Ash and Its Influence on the Refractoriness of Bond Clay, M. C. Booze, Columbus, Ohio.
9. Tests Under Brass Foundry Practice of Crucibles containing Ceylon, Canadian, and Alabama Graphites, R. T. Stull, Columbus, Ohio.
10. Apparent vs. True Specific Gravity of Silica Brick, L. R. Office, Pittsburgh, Pa.
11. Radioactive Brick, H. J. Knollman, Philadelphia, Pa.
12. A Machine for Testing the Hot Crushing of Fire Brick, H. G. Schurecht, Columbus, Ohio.
13. Some Problems of Light Weight Clay Refractories, M. F. Beecher, Worcester, Mass.
14. Dolomite Refractories, C. A. Stone, Kenova, W. Va.
15. Zinc Refractories, M. G. Babcock, Pittsburgh, Pa.
16. Porcelain Pyrometer Protection Tubes, F. A. Harvey, Syracuse, N. Y.
17. The Development of Sillimanite in Porcelain with Time and Temperature, A. B. Peck, Pittsburgh, Pa.
18. The Progress of Vitrification and Solution in Some Porcelain Mixtures, A. S. Watts, Columbus, Ohio.
19. A Study of Some Chemical Porcelain Bodies, M. R. Hornung, Pittsburgh, Pa.
20. Relative Action of Acids on Enamel—III, E. P. Poste, Elyria, Ohio.
21. Comparative Preliminary Tests on Enamel Clays, B. A. Rice, Elyria, Ohio.
22. Effect of Clay on Fusion Temperature of Enamel, E. P. Poste, Elyria, Ohio.
23. The Cause and Control of Blistering in Sheet Steel Enameling, Chester Treischel and L. E. Barringer, Schenectady, N. Y.
24. Magnesium as an Opacifier, V. S. Schory, Tiffin, Ohio.
25. Equipment of a Casting Plant for the Manufacture of Glass Pots, F. H. Riddle, Pittsburgh.
26. Note on the Casting of Porcelain Glass Pots, J. W. Wright and D. H. Fuller, Pittsburgh, Pa.
27. Procedures in the Manufacture of Optical Glass, W. S. Williams and C. C. Rand, Pittsburgh, Pa.
28. Note on the Gases Dissolved in Optical Glass, E. W. Washburn, Urbana, Ill.
29. Defects and the Testing of Optical Glass, A. R. Payne, Pittsburgh, Pa.
30. Some Experiences of a Glass Chemist, W. R. Gildard, Ballston Lake, N. Y.
31. A New Illuminator for Microscopes and its Application in the Ceramic Field, A. Silverman, Pittsburgh, Pa.
32. Gold Ruby Glass, H. T. Bellamy, Chicago, Ill.
33. The Designing of Factory Lay-outs for the Clay Industries, T. W. Garve, Milwaukee, Wis.
34. Details of Kiln Construction, M. Solon, Trenton, N. J.
35. A Comparison of American Clays as Porcelain Ingredients, A. S. Watts, Columbus, Ohio.
36. White Clay Possibilities in Pennsylvania, R. R. Hice, Beaver, Pa.
37. A New Type of Clay Washer, R. T. Stull and M. C. Booze, Columbus, Ohio.
38. The Comparative Value of Kneading and Puging in Preparing Clay, L. E. Barringer and Chester Treischel, Schenectady, N. Y.
39. Informal Talk on Crazing, A. V. Bleininger, Pittsburgh, Pa.
40. The Influence of Body Composition Upon Glaze Behavior, C. F. Binns, Alfred, N. Y.
41. Some Physical Properties of Commercial Porcelain Bodies, J. W. Wright and S. I. Sewell, Pittsburgh, Pa.

(Continued on Page 123)

TOPICS *for* DISCUSSION

at N. B. M. A. ANNUAL

National Brick Manufacturers Association Looks Forward to a Large Attendance at Its Thirty-Third Convention Where a Number of Good Papers Will Be Heard

IT HAS BEEN a long time since conditions have been so conducive toward bringing together a large attendance at a meeting of the National Brick Manufacturers' Association, as those which prevail at the present time. A more central and convenient place for a convention of clay products manufacturers could not have been chosen than Pittsburgh. The William Penn Hotel which will be the headquarters during the convention, is both commodious and modern and will easily accommodate the entire membership of the organization.

The time, February 3 to 8, comes within a period when every meeting of men of a single industry tends to formulate the plans to be followed in regards to the labor market and freight conditions, during the impending readjustment period. Things are moving slower than was at first expected and many unforeseen problems have arisen which every clay man has had to face. No better opportunity is given one than such a meeting as this, to talk over future policy and to hold an interchange of practical experience and information.

A good program will be ready to hold the time and attention of all guests during the period which they spend at the "Smoky City." The smokerette, which is an informal reception and supper, will be held on Wednesday evening in one of the William Penn Hotel rooms. Musical stunts and other entertainment features will make this supper an extremely interesting function. The annual banquet will be held in the ball room of the hotel on Thursday evening, February 6, at seven in the evening. As has always been the custom in the past, it will be a subscription dinner under the auspices of the executives of the National Brick Manufacturers' Association. It is expected to mingle jollification with interesting speeches at this function and arrangements have been made to have a number of notable speakers present.

Following the reports of different officials and committees a list of papers will be read which treat on many sides of the manufacture of clay ware and should prove of interest to every one present. The papers scheduled to be presented are:

1. "Build Now," Lieut. J. Edwin Kopf, Construction Division, United States Air Service.
2. "Tonnage Versus the Per Thousand Basis in Selling Clay Products," Thos. E. Wilson, Pittsburgh, Pa.
3. "Our Labor Problems," Nicholas Vander Pyl, Oberlin, Ohio, representing the United States Department of Labor, Washington, D. C.
4. "Brick Without Straw," Ira A. Woolson, New York City, representing the National Board of Fire Underwriters.
5. "The Evolution of Shipping," John F. Lent, Pittsburgh, Pa.

6. "Over the Top in the Brick Business," general discussion, led by Charles H. Bryan, Detroit, Mich.
7. "Plant Management," R. C. Burton, Zanesville, Ohio.
8. "Industrial Highways," Frank W. Wood, Danville, Ill.
9. "Heat Balance of a Kiln Fired with Forced Draft," Prof. R. K. Hursh, Department of Ceramics, University of Illinois, Champaign-Urbana, Ill.
10. "Brick Work," R. R. Pearse, building commissioner, Toronto, Canada.
11. "Some Thoughts on Industrial Reconstruction with Reference to Clay Industries," Albert V. Bleininger, Pittsburgh, Pa.
12. "Fuel Economy," A. F. Greaves-Walker, Baltimore, Md.
13. "The Face Brick Business in 1919," H. L. Kemper, New Galilee, Pa.
14. "Short Cuts in the Operative End of the Business," M. E. Gregory, Corning, N. Y.

The above program will be followed by discussions on such subjects as "What is the best length for a progressive tunnel dryer?" "Can the auger machine be adapted to the Hudson River clays?" "What is the most economical method of digging and handling clay from bank to machine?" and "Which is the better method of drying brick—steam or direct radiation?"



Ceramic Society Program

(Continued from Page 122)

42. Further Studies in Porcelain, F. H. Riddle, Pittsburgh, Pa.
 43. An American Porcelain Containing No Free Silica, A. S. Watts, Columbus, Ohio.
 44. Porcelain Bodies for Ball Mills, C. W. Parmelee, Urbana, Ill.
 45. Silicious Sagger Bodies, M. R. Horning, Pittsburgh, Pa.
 46. A Study of the Rate of Dissociation of Carbonate Rocks at Various Temperatures, G. A. Bole, Alfred, N. Y.
 47. Experiments in Dead-burning Dolomite, J. B. Shaw and G. A. Bole, Alfred, N. Y.
 48. A Simple, Direct Method for Determining the Dissociation Temperature of Carbonate Rocks, G. A. Bole, Alfred, N. Y.
 49. Oxychloride Cement from Dolomite, J. B. Shaw and G. A. Bole, Alfred, N. Y.
 50. Compressive Strength of Cement-Lime Mortars, F. A. Kirkpatrick and Wm. B. Orange, Pittsburgh, Pa.
 51. Notes on Terra Cotta Slips with Reference to the Use of Asbestos and Mica, Hewitt Wilson, Columbus, Ohio.
 52. The Effect of the Addition of Tin Oxide, Magnesium Oxide, and Barium Oxide to a Bristol Glaze, E. C. Hill, Long Island City, N. Y.
- Discussion on Humidity Dryers, led by A. F. Gorton and F. H. Reagan.
- Discussion on Tunnel Kilns, led by F. H. Reagan.
- Discussion on Burning of Glazed Porcelain in One Operation, led by N. B. Davis.
- Discussion on A Possible Cause for the Dielectric Failure of Porcelains Which Are Apparently Free from Mechanical Defects, led by C. Treischel.
- Discussion of the Prevention of Clinkering of Coal on Grate Bars, led by P. A. Whitaker.

1920 PLANS *in* BEHALF of CLAY PRODUCTS INDUSTRY

Wide Variety of Activities Contemplated by the Government—Large Sums of Money to be Expended on Investigations and Development of New Lines by the United States Bureau of Standards and the Bureau of Mines

By Waldon Fawcett

TO SOME MEN in the clay products field to whom each day brings its own fill of responsibilities, it may appear a trifle early to make plans for the year 1920. Uncle Sam is, however, already hard at work upon his program for a year hence. In the case of the Government activities there is good reason for a policy thus forehanded. It is found in the necessity for obtaining from Congress the requisite appropriation of funds to carry out the plans that have been formulated and this securing of endorsement for the anticipated expense account is always a slow process.

For the clay products interests the significance of Uncle Sam's preparations for the year 1920 lies in the fact that the program that has been sketched in advance contemplates a variety of activities in aid of the industry. Manifestly the Government is keenly alive to the importance of assisting, in a tangible practical way, to bring about extension and expansion of all the lines in the business. Perhaps the realization that the war brought of the wisdom of exploiting to the utmost America's natural resources, clay included, may have had something to do with it. In any event we find an ambitious prospectus arranged for 1920, covering some brand new work in virgin fields as well as a continuance and broadening of research, experimental, testing and investigative work already undertaken on behalf of the clay products industry.

FEAR DUPLICATION OF WORK

One very interesting question that has come up in connection with the formulation of the Government's plans for 1920 in aid of the clay products industry is that of whether there is any duplication of effort on the part of the National Bureau of Standards and the United States Bureau of Mines. Some of our readers may have heard rumors of a clash in this quarter owing to the feeling on the part of some persons that a portion of the rapidly expanding work of the Standards Bureau is an invasion of the jurisdiction of the Bureau of Mines.

Director S. W. Stratton of the Bureau of Standards tells me that he was very much surprised to hear of the making of this charge and feels that some persons must have been misinformed. He feels that, generally speaking, there is no duplication worthy of mention, certainly not on the part of his institution for all that it is so rapidly becoming a great fountain head of technical information for the practical men of the clay industry. His impression is, too, that even in the case of the work which the Bureau of Mines has inaugurated at Columbus, Ohio, there is no duplication except in one or two instances.

It is insisted that the Bureau of Standards, for all it has attained to a new conception of its responsibilities to the clay products industry, is merely carrying out in consistent manner the work that was turned over to it some years ago from the technical branch of the United States Geological Survey. Director Stratton emphasizes that his institution has never changed its policy in this respect, but is carrying on precisely the work that was allotted to it. Explaining the working plan with respect to investigations in behalf of the clay industry he said:

"In handling materials essential to this industry we go to the Geological Survey with all questions of location, identification or distribution. If we want to know the distribution or location of clays, we ask the Geological Survey, and we have the best cooperation with them. If it is a question of mining or preparation for the market, or anything of that kind, we go to the Bureau of Mines. Thus we are cooperating with both the Geological Survey and the Bureau of Mines. The Bureau of Standards does nothing whatever in connection with the mining problem of clay nor in connection with its preparation for the market. We only go into those questions that have to do with the quality of the manufactured product and nothing else.

"The bill which reorganized the Bureau of Mines was very widely drawn and enables them to take up almost any investigation of this kind, but I am sure they would not deliberately take up a line of work that was already being done elsewhere and especially provided for by Congress. The work we do is covered by the act establishing the Bureau of Standards and the specification of the clay products is one of the largest and most important branches of the Bureau's work, either for the public or for Government bureaus. It ought to be increased several fold and the value of the work done by the Clay Products Section of the Bureau has been worth to the public many times the cost of the whole Bureau."

ENTIRELY NEW LINES DEVELOPED

For the work by the Bureau of Standards in aid of the industrial phases of the clay products field, it is planned to spend in 1920 the sum of \$30,000 or half as much again as was expended in any previous year. Commenting on the necessity for this enlargement, Director Stratton said: "The increase is due to the fact that there has been an entire change in this industry in the last few years. It has been necessary to develop entire new refractories. For instance, take the linings of the furnaces on battleships and destroyers. Those linings have to be made of very light brick of a very high heat-resisting power. All

sorts of crucibles also come under this. A very interesting case is that of porcelain. I was at the laboratory the other day and saw a most interesting experiment. The potters in this country came over with the old English methods and they imported a great many of their materials. In this experiment, batches were made up of certain bodies, as they call the clay, mixtures of clay and other materials used, and they were sent to six or eight potters. They burned those different bodies made up of domestic material, and before they had completed their experiments they were asking: 'What is the composition of No. 16?' or 'What is the composition of No. 15?' They would say: 'That is just what we want for certain work.'

"Another case is that of a clay aggregate for cement. If we make concrete out of ordinary cement with stone as the aggregate, it is very heavy. In many cases, as in the building of floors and in some instances in the building of roads where stone is scarce, it is very necessary to have an aggregate which is not so heavy. They found out by burning clay very quickly that it will expand like a loaf of bread when it rises; this burnt clay aggregate is quite strong. This is an entirely new development. It was developed for concrete ships, but its use in other places is far more important."

Mention by Director Stratton of crucibles as a subject of experiment, is a reminder that here, if anywhere, there appears to be a chance for crossed wires as between the work that the Bureau of Standards is doing at Washington and the operations of the Bureau of Mines in connection with the Ohio State University at Columbus. When asked if he had heard of the work of the Bureau of Mines on this problem Director Stratton said: "That came to me in a round about way. I simply considered it as a military exigency because we had already worked out the question of the crucibles to a large extent and will continue it."

MINES BUREAU HAS WIDE PROGRAM

Altho Secretary of Commerce Redfield, speaking recently of the reported collision between the clay products activities of the Bureau of Mines and the prerogative of the Bureau of Standards said: "We deal with the industrial phases—our work starts where their work leaves off." It is an open question whether the Interior Department will surrender all the jurisdiction claimed by the Department of Commerce. For example, the agreement of the Bureau of Mines with the Ohio State University calls for operation for "increased efficiency in the utilization of mineral substances necessary to the ceramic industry, stimulating and upbuilding this industry and substituting ceramic products of American manufacture for those now imported."

Yet more significant, in the light of the situation that has developed, is the announcement recently made by Director Van H. Manning, of the Bureau of Mines to the effect that the program for next year at the Columbus experiment station will include the investigation of problems relating to the ceramic industries—no limitation being indicated—and "the devising of improved methods of refining, manufacturing and utilizing clays and other ceramic raw materials and the assisting of manufacturers of ceramic products to reduce the cost and improve the quantity of their product." If this does not signal an invasion of the industrial zone the wording has not the meaning that the average layman would ascribe to it.

FULL SIZE SPECIMEN TESTS ASKED FOR

That the Bureau of Standards has, however, no intention of sitting back and allowing any other branch of the

Government to monopolize effort in behalf of the brick and clay industry is attested by the fact that the Bureau of Standards' program calls for additional expenditures in 1920 at every point of contact between this scientific and industrial nerve center and the clay products industry. For example, a fund of \$175,000 instead of the previous annual allotment of \$125,000 has been asked for the investigation of structural materials, including clays and cement. An allowance of \$60,000 instead of \$25,000 is counted upon for use in 1920 in the investigation of fire-resisting properties of building materials. Heretofore work has been carried on by means of column tests with brick, etc., but there is now demand for tests of full-size specimens, wall partitions, floors, etc. Particularly is there an insistent demand from consumers for partition tests, such as are in contemplation.



Nebraska Meeting Likely to Be Postponed

In the January 14 issue of *Brick and Clay Record*, page 34, announcement was made that the Nebraska Brick and Tile Association recently decided to hold its annual meeting in February, and that plans were under way for an interesting and helpful program. Since that time it has developed that quite a number of the members of the association are planning to attend the meetings of the face and common brick manufacturers, which will be held the early part of February and so it has been suggested that the Nebraska association meeting be postponed until March—probably March 4, 5 and 6. Definite dates for the meeting will be announced later.

A special bulletin has been sent out by the secretary of the Nebraska Brick and Tile Association urging every member to attend the hearing, which will probably be held February 14, on the advance in brick rates proposed by the carriers. The brick manufacturers of the state will probably hold an informal meeting in Omaha the day prior to the hearing so that opinion may, if possible, be crystalized on some basis satisfactory to all, so that the manufacturers may present a united front at this hearing. As soon as definite information is received, all members of the association will be notified.



Live Topics Scheduled for Discussion at Meeting of Wisconsin Clay Manufacturers

The nineteenth annual convention of the Wisconsin Clay Manufacturers' Association will be held at the Republican House, Milwaukee, January 30 and 31. All old members, as well as the new, are urged to be present, as there are some important problems before the Wisconsin manufacturers concerning railway rates and other matters which need attention.

Live topics are scheduled for discussion on the program and an opportunity will be given for the manufacturers to ask questions, offer suggestions and co-operate fully with their fellow manufacturers.

The Thursday morning session will be devoted to the registration of the members, reports of the various officers and committees and an address by President John Ringle. The afternoon session will be taken up by the reading of papers on the "Advantages of Using Electric Power in Brick Plants," by Thomas Larson, of Shawano; "The Fuel Problem in Brick and Tile Manufacturer," by John C. Stier, of White-water; "Labor Problem in the Clay Industries," by Oscar

Wilson, of Menomonie, and "Artificial vs. Open-Air Drying," by Oscar Zimbal, of Sheboygan.

Thursday evening there will be a round table discussion on problems of drying clays, of burning clays, the elimination of pebbles from clays, current prices of clay products, etc.

Friday morning, January 31, Professor O. S. Zeasman, of the University of Wisconsin, will talk on "The Market for Drain Tile in Wisconsin," followed by an address on "The Outlook for After-the-War Business," by J. G. Hamilton, of Grand Rapids. Friday afternoon will be taken up by the reports of the special committees on auditing, resolutions and nominations, followed by the election of officers and the appointing of standing committees.

Do not fail to be on hand to partake of this feast of good things.

* * *

Cleveland to Spend \$50,000,000 for New Passenger Station

What promises to be one of the biggest things that ever happened to push the clay products industry to the front in the Middle West is about to take place at Cleveland, Ohio, following the approval of vote by the people of the ordinance authorizing the construction of a mammoth Union Passenger Station at the Public Square in that city. The election was held on December 6, and carried by a vote of 2 to 1, in the face of strong opposition brought to bear against the interests backing the project.

The magnitude of the job is illustrated by the announcement that the proposal calls for the expenditure of \$50,000,000. This sum will be divided in approximately three parts—the material, labor and property to be absorbed for the site of the terminal.

Tremendous consumption of brick is more than likely, as, altho plans are hardly even in the tentative stage, it is expected the main group of buildings fronting on the Square will be of brick, to conform to the Hotel Cleveland, recently completed, which itself is practically one of the units of the project. Not only much face brick will be used, but considerable quantities of hollow tile and common brick.

Passage of the ordinance is but the first step toward realization of the plans of O. P. and M. J. Van Sweringen, original promoters of the station. The next step will be the negotiations with the railroads which will use the terminal. That matter settled, it is believed the actual construction will be started, as all the money needed for the proposition is available, the promoters say. Actual construction will start early next spring, it is intimated.

While the station project in itself will be a great thing for the brick and allied industries here, far greater significance is seen in the starting of work on the buildings by brick and building supply interests of Cleveland. Of all large cities, Cleveland is believed to stand at the head of the class in the matter of housing and other building shortage as a result of restrictions necessarily imposed on account of the war. Since the announcement of peace there has not been that sudden revival of building activity as was anticipated before the war ended. In spite of advices of brick and similar interests to the contrary, prospective builders still are of the impression that high cost of material is the stumbling block in their way toward reasonably economical construction at this time. As a matter of fact the price schedule in Cleveland is lower, comparatively, than elsewhere, but equipment, such as plumbing, heating and other items entering into building completion have been high. These latter items, many of them, have been cut

an average of 25 per cent. since the first of the year, and already a better influence upon prospective builders is being felt.

"The starting of work on the station project, however, will mean that many others are likely to follow this lead," says E. J. McGettigan, sales manager of the Barkwill-Farr Company, speaking from the brick manufacturers' and distributors' point of view. "Our experience in the last few months seems to prove that other builders have been waiting upon this project. They probably figure that if these station interests can go ahead at this time, so can they. This is borne out by the larger amount of 'shopping' by these smaller builders in the last few weeks of the contest to get this ordinance passed by the people.

"There will be no significant lowering of brick prices in the Cleveland district as far as we can see now, nor in other materials. There may be some shading off, under the influence of removal of restrictions imposed by war conditions. If the prediction is true that restrictions upon coal prices will be lifted by February 1, that will make some reduction in the cost of production, for there seems to be plenty of coal, and it is likely to be allowed to go at more reasonable prices. This is one item that will give brick, tile and other interests a chance to reduce. We want all building interests to know that as soon as costs justify it, we want to reduce prices for the materials."

The station project will occupy a large district, fronting on the Square, and running back and along The Flats, the territory in the Cuyahoga Valley that has made Cleveland possible because of its adaptability to all manner of industries. New streets, to take the place of those vacated, are provided for in the agreement of the promoters to the city. Like everything else in connection with the proposition at this time, paving plans are undecided. Paving brick interests are hopeful for big consideration of their product, however, in view of the success, both from a utility and artistic point of view, of the runways in and about the Pennsylvania Station in New York City, which are of vitrified brick. It is believed by the industry here that the promoters will give serious consideration to this form of pavement, in view of their determination to make this station and its surroundings such as will be a permanent and durable character.

* * *

Brick and Clay Exports

From figures now available covering exports to other countries for the month of November, it is shown that American fire brick was sent abroad to the amount of \$33,874 in this time. Of this total, China received \$4,620; Australia, \$14,525; Mexico, \$4,058; and Chili, \$3,700. The shipments to Australia aggregated 107,000 fire brick. Earthenware in this time was exported to the amount of \$23,935, the largest shipments going to Cuba (\$9,098), Hayti (\$2,368), and Brazil (\$2,122). The shipments of tile, excepting drain tile, totaled in value \$33,314; chinaware, \$18,377 and other earthenware, \$25,668. The only building brick sent out of the country were to Chili, totaling 20,000, with value at \$335. Fire clay was exported to an amount of \$1,015, and other clays, \$8,485.

* * *

The Carbon Hill Clay Co. has been incorporated at Carbon Hill, Ohio, by Noah F. Andrews, with a capital of \$15,000.

A. G. Yoder, of Canby, Ore., has sold his tile factory at that place.

CHARACTERISTICS *of* POWDERED COAL

This Article Was Prepared By An Expert With a View Toward Stimulating Study on the Possibilities of Powdered Coal in the Ceramic Industries and Gives Some Splendid Information on Its Properties

By W. G. Wilcox

*Lt.-Col. of the U. S. A., formerly connected with the Powdered Coal Engineering & Equipment Co., Chicago.
Read before the Chicago Section of the American Ceramic Society, by F. L. Steinhoff,
Associate Editor of "Brick and Clay Record"*

The scarcity and steadily rising cost of fuel of all kinds during the past few years has stimulated interest on the part of manufacturers in improved types of kilns and methods of combustion. The possibility of using powdered coal in the ceramic industries thus far has been given but little attention. However, with the high cost and scarcity of fuel oil as well as natural gas, many manufacturers have been confronted with the problem of substituting some other form of fuel in its stead. This is especially true of those plants located in Ohio and West Virginia where the supply of natural gas during winter months is so greatly reduced that many kilns have been shut off even in the middle of a burn. To overcome this difficulty one plant has conceived the plan of using powdered coal during the months when natural gas is scarce or if the system proves economical, to use it steadily. Thus at the present time this plant is beginning to use this system of burning, having already made the necessary installation. It is expected that a report of this experiment will soon be made public.

Another plant has written to Brick and Clay Record asking for information and data concerning the use of powdered coal. These examples show that the industry is beginning to study this form of fuel and sees in its use possibilities of economy.

While the use of powdered coal in the ceramic industry possibly could not be applied to all kilns and ware it does seem that it does have possibilities of use in some of the muffle kilns, fire brick kilns, scove kilns, and such kilns as are used in the manufacture of common brick as employed by the Illinois Brick Co.

In the discussion following the reading of this paper at the American Ceramic Society meeting referred to, it was brought out that powdered coal would make a splendid fuel for the ceramic industries were it not for the fact that an obstacle in the form of ash stood in its way. If a solution could be found for disposing of the ash so that it would not spoil the ware, clog up the flues, and deteriorate the combustion chambers the problem would be solved. We believe that a thoro investigation including experimentation should be given this fuel before condemning it as unavailable. The article is published to stimulate interest in this direction.

OUR GREATEST OPPORTUNITY for success in meeting the fuel situation lies in the efficient combustion of both low grade and high grade fuels. It is far wiser to save avoidable losses than to increase supply and thus compensate for losses. It is pre-eminently the patriotic and professional duty of the chemist and engineer to work for the more efficient utilization of fuel. We should therefore study critically the lines along which we should work. Among the more efficient types of combustion is the use of powdered fuel. By considering the nature of powdered coal as a fuel and its combustion characteristics we can learn its possibilities in the present fuel situation. The requirements necessary in perfect combustion show the weaknesses of present methods and the possibilities of powdered coal combustion.

What are the known avoidable losses in combustion? What are the essentials necessary for combustion efficiency?

ESSENTIALS OF GOOD COMBUSTION

Assuming correct furnace and flue design, and proper and controlled draft, the essentials of good combustion are:

First: Complete oxidation of all the combustible in the coal to avoid loss of combustible in ash and up the stack. The loss of unburned carbon in the ash will vary with different types of fuel, different types of ash and the percentage of ash in the coal. It will also vary with the type of stoker used and boiler load carried. In hand fired practice it will vary with the skill of the fireman; and in producer operation it will vary according to the quality of the coal, type of producer and operating conditions.

Using an Illinois coal of the following analysis:

Sulphur	5½ per cent.
Volatile matter	34.0 per cent.
Fixed carbon	42.0 per cent.
Ash	18.5 per cent.

the results of one of the large users in the Middle West show the following losses in the ash:

	Actual per cent of coal lost.
Over-feed stokers—25 per cent. unburned carbon in the ash.....	4.6 per cent.
Chain grate stokers—35 per cent. unburned carbon in the ash.....	6.5 per cent.
Hand fired—35 per cent. upwards unburned carbon in the ash.....	6.5 per cent. and upward

This particular consumer has two different types of stokers and also does a large amount of hand firing. His consumption

is over 100 carloads of coal per day; operation is under the direction of skilled technical men who have actual data as to losses.

In producer operation using a good grade coal, 20 per cent. of unburned carbon in the ash is the minimum figure. Under bad conditions when poor, fine wet coal was used and with variable steam pressure, as high as 55 per cent. unburned carbon will be found in the ash even with a first class modern producer.

With any type of stoker or producer the loss due to unburned carbon in the ash increases with the increasing ash content. This is not a straight line function partly due to the human element while the increase in unburned carbon with increasing ash is affected considerably by the nature of the ash, its fusibility, etc. Certain coals altho of high heating value offer enormous difficulties to efficient operation when put thru a producer, burned on grates or on stokers. A case in point is a coal obtained in southwestern Virginia not far from Bristol, Tenn. This coal runs over 14,000 B. t. u. and contains under 8 per cent. ash. Occuring in this coal are fine laminations of pure crystalline transparent calcite which is present in just sufficient amount to flux the other ash materials and give continuous trouble from clinkering. Even in a modern mechanical producer this coal is a source of continuous trouble and interruption of operation. Due to the mechanical occurrence of the ash, washing does no good.

Another case is a Colorado coal of the following analysis:

Ash	6.66 per cent.
Volatile matter	43.76 per cent.
Fixed carbon	49.58 per cent.
Sulphur	0.93 per cent.
B. t. u.	12,886

The ash of the coal melts, runs down on the grates and freezes there while the coal itself disintegrates and chokes up the fire.

FLAME LENGTH AND AIR CONTROL

There is, of course, also the loss of unburned carbon up the stack which altho as much as one or two per cent. under some conditions should be small with good operation.

Second: Control of combustible and air. This is absolutely essential, if we are to secure maximum flame temperature with a corresponding increased rapidity of heat transfer. The more rapid the heat transfer in the furnace or boiler, the higher the capacity of the furnace and in general the greater the efficiency. This may well be shown by the following example. The theoretical flame temperature for hydrogen is 2,010 deg. C.; while with 25 per cent. excess air, this figure drops to 1,764 deg. C. This fact has long been realized in boiler practice and considerable emphasis has been placed on high content of CO₂ in the flue gases and a minimum amount of excess air.

Third: Control of flame length. In order to maintain in a furnace the conditions which the design of the furnace, the operation or the metallurgical process occurring therein requires, it is essential that the length of the flame be under control. An example is found in a recent development in firing copper reverberatory furnaces. For a long time it has been a practice to fire copper reverberatories with an insufficient amount of air, admitting the amount of air required to complete combustion at ports along the side of the reverberatory. It has recently been found with oil fired reverberatories that if the number of oil burners firing into the furnace is increased and the mixture of oil and air so adjusted as to give complete combustion with a short, hot flame, the capacity of the furnace is increased in some cases as much as 50 per cent., while the fuel ratio is better than

anything yet obtained with oil in reverberatory practice. This is also true of powdered coal fired reverberatories. In this particular operation it has been found that a short, hot flame leads to most efficient operation and highest furnace capacity, but there are other processes in which the reverse is true.

In changing types of fuel, for example in changing from the hand firing of coal to powdered coal combustion, the economies met with are usually far greater than those which can be figured out from the known losses. The increase in capacity is usually so great that it can only be attributed to increased furnace efficiency. This increased furnace efficiency in all probability follows from the fact that the operator is now able to maintain the flame length and type of combustion for which that particular furnace design is best suited. When in changing from hand fired practice to powdered coal combustion, it is found that only from 30 to 40 per cent. as much coal is used as formerly, the greater proportion of the saving is very evidently due to change in the efficiency of the furnace.

FLEXIBILITY OF COMBUSTION OBTAINED

Fourth: That type of combustion which is to be most efficient must possess flexibility in capacity. Flexibility in combustion means rapid response. Only in this way can a cold furnace be brought to heat very quickly or a standby boiler come up to peak load rapidly. This makes for efficiency because it reduces the fuel consumption during the standby period. Many operations also require considerable variation in heat input at different stages of the operation; in order to secure highest efficiency under these conditions, extreme flexibility as to "combustion load" is demanded.

Fifth: Control of the nature of the combustion. In many operations it is not only necessary to heat uniformly, quickly and efficiently, but it is equally important to maintain a certain chemical condition in the furnace. This condition may be oxidizing, reducing or neutral. In any case the control of combustion should be such that the desired condition may be maintained within very close limits; failure to do so means a waste of fuel. Maintaining an oxidizing condition without ability to control it within close limits, will result in having present too much of an excess of air, which will lower flame temperature, lessen output, lower furnace efficiency and reduce fuel efficiency. Likewise a reducing condition, unless maintained within close limits, means that fuel is needlessly wasted. If the operation demands a neutral condition, there may be some loss due to spoiling of product, unless there is the ability to maintain the neutral condition quite exactly.

Sixth: One stage combustion. The best example of two stage combustion is the producer. The producer affords in many of its applications an overall efficiency which is considerably higher than that obtained by other methods. Nevertheless we should clearly realize that in the process for making producer gas there is an inherent loss because of the inability to gassify without forming a certain percentage of CO₂, due to heat losses at the producer and losses in sensible heat from the gas between the producer and the point at which it is used.

There is another serious objection to two stage combustion. When combustion is completed, the final flame temperature is lower than in a one stage process. Unless we resort to such devices as the recuperator or regenerator, high temperatures cannot be reached. Furthermore, a two stage combustion results in "cracking" some of the most valuable constituents of the coal with the formation of smoke in the furnace and soot in the producer. This has been shown very well by Kreisinger, Augustine and Ovitz

in Bulletin 135 of the Bureau of Mines, in their study of the combustion of coal and furnace design.

CHARACTERISTICS OF POWDERED COAL

Having considered the essentials for efficient combustion, we can correctly estimate the value of powdered coal as an efficient fuel, by studying its characteristics, and seeing to what extent these make it possible to maintain the essentials of good combustion. In the same way we can also ascertain the conditions demanded for success in the combustion of pulverized fuel.

The simplest way to regard the combustion of coal is that it is a reaction between fuel and oxygen. It is therefore a heterogeneous system, consequently the velocity of the reaction and its completeness will depend upon the surface exposed by the solid, the pressure of the reacting gas and the intimacy of the mixture. By grinding an inch cube of coal so fine that 85 per cent. will pass a 200 mesh screen, we have increased the surface exposure from six square inches to approximately 1,800 square inches. We have therefore increased the velocity of combustion approximately 300 fold. By doing so, we have immediately changed the characteristics of the fuel. We now have a fuel relatively 300 times more active than the inch cube of coal, a new type of fuel which has in it inherent possibilities not met with in lump or slack fuel. By increasing the surface exposure 300 fold, we have speeded up combustion proportionately. This carries with it a further effect. The increase in combustion velocity also increases the rapidity of heat evolution, and consequently quickly raises the temperature of the rest of the material. This temperature rise, which is much more rapid than in the normal combustion of coal, will double the velocity of combustion each rise of 10 deg. C. The increased velocity due to greater surface exposure and that due to temperature rise are superimposed on each other so that we have with pulverized fuel a combustion which is hundreds of times faster than when burning lump coal.

MIXING THE COAL WITH AIR

Having a finely divided fuel it is possible to form a mixture of fuel and air so intimate that each small particle of coal is surrounded by the proper amount of air. In this condition, by maintaining the proper velocity of the air current, the fuel can be carried into the furnace in suspension and there burned completely, efficiently and rapidly.

It is of course a simple matter to mechanically control the amount of powdered coal delivered to the furnace in a given time. It is also quite possible to control the amount of air delivered with the coal. If, then, we delivered to the furnace an intimate mixture of air and powdered coal and have control of the amount of coal dust and air delivered, we have the prime essentials for highest combustion efficiency. These are the possibilities in utilizing coal in powdered form. The degree to which they are attained depends entirely upon how carefully we study the characteristics of the fuel before and during combustion.

The amount of coal dust delivered to the furnace can be controlled simply and positively by using as a feeder a properly designed screw, operated at variable speeds. It is also a simple matter to control the volume of air admitted with the fuel. But the highest efficiency possible with this type of fuel will not be obtained unless we work out a correct way in which to mix a finely divided solid with the air.

A study of the methods for making such a mixture, immediately shows that the methods commonly used in making uniform mixture of two miscible liquids or a uniform solution of a solid in a liquid or the methods used in mixing finely ground solids are not only useless in this case, but

will actually separate the coal dust from the air. Ordinary mixing is done by agitation; this agitation is usually accomplished by baffling, stirring, shaking or similar devices. When, however, such methods are applied to a mixture of gas and finely divided solid, the solid tends to separate out due to its much higher specific gravity. This, in fact, is the principle of the well known cyclone dust collector. Any mixing device which results in such agitation of the dust and air as to give a centrifugal effect, will tend to separate out instead of mixing the air and the dust. Any mixing device along these lines must necessarily fail to give an intimate, perfect mixture.

COMBUSTION DEPENDENT UPON INTIMATE MIXTURE

The importance of intimately mixing the coal dust and air cannot be exaggerated. The rapidity of combustion is a direct measure of the intimacy of mixture. This is well illustrated by comparing the ordinary gas flame with the flame obtained in the Bone Combustion System. As you are aware, the Bone System consists in forcing the proper proportions of air and gas thru a diaphragm having numerous

Table of B. t. u.'s That One Dollar Will Buy

Bituminous Coal.....	{ 13,500 B. t. u. per lb. 2,000 lb. @ \$4.00	{ .6,750,000
Anthracite Coal.....	{ 13,500 B. t. u. per lb. 2,000 lb. @ \$8.00.	{ .3,375,000
Seasoned Hardwood..	{ 4,000 B. t. u. per lb. \$8.00 per 4-ft. cord.	{ .2,700,000
Natural Gas.....	{ 1,000 B. t. u. per cu. ft. \$0.30 per 1,000 cu. ft.	{ .3,333,000
City Gas.....	{ 600 B. t. u. per cu. ft. \$1.00 per 1,000 cu. ft.	{ . 600,000
Crude Oil.....	{ 19,000 B. t. u. per lb. \$4.00 per bbl.	{ .1,615,000
Electricity	{ \$0.08 per kw.-hr. \$0.01 per kw.-hr.	{ . 34,128 4,266
Alcohol	{ 95 per cent. volume \$1.00 per gal. (6.58 lbs.)	{ . 78,302

small interstices which results in a mixture that is nearly perfect. When this mixture is ignited on the other side of the diaphragm, we have only a film of flame.

The poorer the mixing the longer the flame. The flame simply outlines the area in which combustion is taking place and the length of the flame is a measure of the time element necessary to accomplish combustion. This time element—other conditions being equal—is absolutely a function of the intimacy of mixture. This has already been noted by Breckenridge some ten years ago, when in Bulletin No. 325 of the United States Geological Survey, page 171, he stated:

“The conclusion is reached that the velocity of combustion decreases enormously from the surface of the fire to the rear of the combustion chamber, where it is relatively very small, the practical application is that little is to be gained by adding further length of smooth combustion chamber, which would be commercially as poor an investment of capital, as to add to the length of a Corliss engine cylinder and stroke; we must resort to thoro mixing.”

On page 178 of the same bulletin, Breckenridge further stated:

"Mere length of combustion chamber counts for little—that mixing is what counts."

These two excerpts from Breckenridge's study of four hundred steaming tests have since been amply confirmed by the work of Kreisinger, Augustine and Ovitz, in bulletin No. 135 on the Bureau of Mines, entitled "The Combustion of Coal and Design of Furnaces." The work of these investigators confirmed and emphasized the previous observations of Breckenridge and they quote him as I have. They also state on page 130:

"Evidently, the length of the flame depends not only on the nature of the combustible, the excess of air, and the rate of firing, but also to a large degree on the rate of mixing of the combustible gases with the oxygen of the air. It has been shown that the tendency of the gases is to flow in parallel streams thru the tuyeres of the furnace.

POWDERED COAL A RICH FUEL

So far we have considered this type of fuel from the point of view of the possibilities which it affords. We have also studied the characteristics of the mixture of coal dust and air in order to ascertain what methods should be employed to insure delivery to the furnace of an intimate, controlled mixture of fuel with the requisite amount of air. A fuel having the great possibilities offered by a finely divided combustible is of extreme importance especially under present conditions. Because of these possibilities, all of which are capable of being realized and which are satisfied by commercial equipment now on the market, there is less excuse for permitting inefficient operation with this fuel than with stoker or hand fired practice. Apparatus, properly designed and fundamentally correct in principle, will give proper efficiency. Such apparatus by giving an intimate and controlled mixture of fuel and air to the furnace will permit the highest furnace efficiency.

Just as in the past there has been a remarkable failure to realize the necessity for intimately mixing air and coal dust, neither has there been sufficient consideration of the characteristics of this fuel when burning. Powdered coal has the characteristics of a rich fuel of somewhat higher kindling temperature than producer gas, natural gas or fuel oil. To illustrate the fact that it is a rich fuel, we can compare the available B. t. u. in a cubic foot of a correctly proportioned mixture of powdered coal and air and the available B. t. u. in a cubic foot of a correctly proportioned mixture of pure methane and air. Taking a Pittsburgh vein coal (heating value 14,157 B. t. u.) of the following analysis:

Volatile	35.4 per cent.
Fixed carbon	58.5 per cent.
Ash	6.1 per cent.

we find that a cubic foot of a correctly proportioned mixture of coal dust and air has available 107 B. t. u. while a mixture of pure methane and the proper amount of air has available per cubic foot, 62.3 B. t. u.

A further illustration is shown by the theoretical maximum flame temperature of several fuels.

Theoretical Maximum Flame Temperature Using Cold Air

Hydrogen	2,010 deg. C.
Carbon monoxide	2,050 deg. C.
Natural gas	1,806 deg. C.
Pure methane	1,958 deg. C.
Pittsburgh coal (analysis given above)	3,470 deg. C.

The rapidity of combustion and the completeness of combustion of a mixture of coal dust and air depends upon a number of factors.

FACTORS AFFECTING COMBUSTION OF POWDERED COAL

First: The velocity and pressure at which it is passed into the combustion chamber. If the velocity of the incoming stream of powdered coal and air is above the velocity of flame propagation, combustion will not take place until the mixture has slowed down to a point that it does not exceed the velocity of flame propagation. When powdered coal is fired at high pressure and high velocity, combustion frequently does not begin until a point four to six feet from the mouth of the burner. A similar example is found in the plumber's blow torch when too much air is used, or in the Bunsen burner when the gas pressure is too high. High pressure, high velocity firing not only slows down combustion thus increasing the size of combustion chamber necessary but has a destructive action on the furnace. It has been well established that high velocities in the combustion chamber or a blow torch affect due to firing at high pressure (whether oil or gas be used as a fuel) are always very destructive to the brick work. This action is increased in high pressure firing of powdered coal since in addition to the erosional effect of gases at high temperature traveling at high velocity, there is a fluxing action by the melted ash. Furthermore, with such high velocity combustion, the slagged ash will be carried along mechanically, leading to further furnace troubles. In one case this resulted in a serious deposit of slag on the mud drum of a vertical waste heat boiler at the end of a long reverberatory furnace. Slowing down the velocity not only hastens combustion, but makes it possible to eliminate much of the slag. When the velocity is low the coalesced particles of slagged ash are either larger than will be carried by the velocity of the gas or this condition is so nearly approached that a slight change in direction of the flame will result in dropping out the slag. Thus, in addition to being correct combustion and necessary in order to avoid excessive furnace maintenance costs, low pressure, low velocity combustion permits by slight change in flame direction dropping out a very large percentage of the slagged ash in the early part of combustion, where it can be removed and will not interfere seriously with efficient metallurgical operations.

VELOCITY OF COMBUSTION

The velocity of combustion is not only dependent upon the fineness of the particles of coal, intimacy of mixture and the velocity of the stream of combustible and air, but is affected by the temperature of the combustion chamber. The kindling temperature of a mixture of powdered coal and air is higher than either that of oil or gas; consequently for successful and complete combustion, it is necessary that the combustion chamber be maintained above a certain minimum temperature and that combustion is practically complete before the products of combustion pass over the heat absorbing surfaces. Just as you can extinguish a gas flame by passing over it a piece of wire gauze, so the effect of a chilling surface will be even more marked with this combustible material than burning gas, since the particle of coal is infinitely larger than a molecule of gas and the kindling temperature is also higher. This has a direct application in the successful firing of locomotive type boilers, water tube boilers and return tubular boilers. If the combustion of powdered coal is not sufficiently developed before the flame enters the tubes of the locomotive type of boiler, combustion will be checked and coked coal settle out in the tubes. If on the other hand combustion is sufficiently developed before the flame is brought in contact with the heat absorbing surface, complete combustion and high efficiency are obtained. In any furnace operation and in furnace design, this must be borne in mind if success is to be expected.

A study of the flame developed by a low pressure, intimate mixture of coal dust and air shows that combustion is extremely rapid. In a copper reverberatory furnace in Florence, Colorado, where this type of combustion is used, coal burned at the rate of approximately one ton an hour develops a flame which vanishes within six feet of the burner, combustion being complete at that point. In order to bring out exactly what this means, let us translate it into terms of natural gas, in which case the fuel consumption would be approximately 26,000 cubic feet per hour, or 433 cubic feet per minute. You can picture to yourself this quantity of gas being burned at low pressure and developing a flame only six feet long. Gas samples taken in the flame, show a content of CO_2 as high as 16 per cent. only five feet from the mouth of the burner. This will give an example of the rapidity with which combustion can be obtained and the extremes which are possible in shortening the flame. It is equally possible with proper equipment to lengthen the flame until it will spindle out a distance as great as 100 or 120 feet. However, with an intimate controlled mixture, this must be done by supplying insufficient air. Under such conditions combustion is incomplete and the flame spindles out because combustion continues to develop thruout the length of the furnace as air leakage supplies additional oxygen. This is an additional proof of the statement previously made that the length of the flame is an actual measure of efficiency of mixing and the adjustment of the fuel-air ratio.

CHARACTERISTICS OF COAL CHANGED BY POWDERING

Thus, it is seen that we have changed entirely the characteristics of coal as commonly known. Powdered coal is a fuel of extreme flexibility in that the amount burned can be varied within wide limits. It is a fuel which develops a flame whose length can be adjusted. The character of the flame can be altered to suit the metallurgical operation. In short the basic fuel, coal, has acquired the characteristics of oil or gas, but with better and closer control than in the case of oil or gas. Furthermore, the possibilities of this fuel are not only capable of realization, but are actually being utilized in commercial practice today. To the flame characteristics of a rich fuel, developing a flame like oil or gas, is added a degree of control not yet obtainable in burning either oil or gas. This statement is made advisedly. The possibilities of such combustion for the improvement of process, for fuel economy, for increasing output, thru its case of control and elimination of heavy labor, are today realized by few. Due to the psychological attitude of labor and the scarcity of skilled operatives, it is far more difficult than ever before to secure high efficiency and good operation in hand firing, stoker firing or in producers, in short wherever such efficiency depends upon constant watchfulness and hot, heavy, disagreeable work. For these conditions powdered coal substitutes an ease of control such that the equipment can be handled by an old man or a boy, while it is so simple that a man of ordinary intelligence can soon be taught all that is necessary for good efficiency in operation. The possibilities of such control in the place of present-day combustion methods, which permit high efficiency only by the most strenuous effort, thru substituting for these a type of combustion whereby high efficiency is easily obtained, are certainly of great importance to us at the present time.

CONSTANT TEMPERATURE CONTROL POSSIBLE

A still more striking example of the possibilities of controlled combustion may be cited of a powdered coal installation now being made. In this particular process a cast iron container is maintained continuously at a temperature of

1,000 deg. C. This is not only close to the melting point of the material but is a temperature so high that the oxidation caused by the unavoidable excess of air met with in ordinary methods of combustion results in enormous maintenance costs due to quick failure of the container. In this installation it is confidently believed that the combustion can be so controlled as to cut oxidation to a minimum so that the life of the container will be greatly increased.

In burning low grade fuels in suspension the only loss in efficiency is that due to lower flame temperature caused by the increasing amount of ash and the heat lost in the ash. Coals running as high as 30 to 40 per cent. ash can be successfully burned; combustion will be complete and maximum flame temperature for that fuel will be obtained. The only difference between burning a fuel of this type and a high grade fuel is the difference in flame temperature and the heat loss in the slagged ash. An ash whose slagging character would lead to enormous difficulties in producer or stoker operation will simply melt the easier when the coal is burned in powdered form and can therefore be dropped out earlier in the furnace, which in many cases constitutes an actual advantage. The lignite fuels of the Middle West and the Far West can be burned successfully and are being burned successfully in powdered form. An enormous field is opened up thru ability to burn with efficiency these lower grade fuels. It will eliminate long hauls of fuel by our railroads, release motive power and cars, and conserve our fuel reserves.

An unusually good illustration is found in two coals previously mentioned, one a Virginia coal more than 14,000 B. t. u. and less than 6 per cent. ash, and the other a Colorado coal. Both of these are practically unavailable as fuels when using stokers, grates or producers, because of the chemical nature of the ash and its mechanical form. When, however, these coals are pulverized, the distribution of the ash in the lump coal has no effect, while the low melting point of the ash in many cases offers a decided advantage. These coals both afford splendid fuels of high heating value when burned in powdered form. The Colorado fuel is being burned successfully in this way. The River Smelting & Refining Co., which is burning this Colorado fuel, have cut the fuel requirements per ton of ore smelting in a reverberatory to one-eighth that necessary when this coal was burned on grates.

It has been the object of this article to discuss the unusual characteristics of powdered coal as a fuel; not only the characteristics of the fuel before being burned—which of necessity dictate the principles which must be made use of in designing proper equipment and which give us an idea of the possibilities offered by this fuel—but its more striking possibilities have been shown. Many of these are actually being obtained commercially today.



A. S. Reid & Co. Incorporated

A corporation was organized on January 1, to take over the business conducted at Newark, N. J., by A. S. Reid, trading as A. S. Reid & Co. The new corporation bears the same name and is the same organization thruout. A. S. Reid maintains a controlling interest in the corporation and is the president and treasurer and has associated with him Edwin F. Knight, vice-president and manager and William W. Oliver, secretary.

A. S. Reid is one of the well known characters in the clay working fraternity. He entered the employ of the Penn Buff Brick & Tile Co. in 1896, that company manufacturing

face brick, and later they began the manufacture of enameled brick under the name of the Blue Ridge Enameled Brick Co. At this time Mr. Reid was the sales manager of that company and his travels took him from coast to coast and he gained a wide acquaintance. He also opened a face brick office in Newark in 1902 which soon developed into considerable magnitude and in 1909 he resigned his position with the Blue Ridge Enameled Brick Co. and devoted his entire attention to his own business. In 1911 he, with others, organized and opened an office in Philadelphia and has developed a large business at that point. He has always felt it to be good business policy for his associates to be interested with him whenever possible and for that reason decided to incorporate the Newark business and the dinner given at the Down Town Club the evening of January 2 was for the purpose of announcing to some of his friends the incorporation of the new company.

Edwin F. Knight, vice-president and manager of the corporation entered the employ of the Bradford Pressed Brick Co., at Bradford, Pa., in 1906 as a bookkeeper and office assistant and later became the sales manager of that company. While Mr. Knight was in Bradford he became quite well known to the trade thru his representation of the merits of "Bradford Reds" and later was the secretary and one of the incorporators of the Bradford Fireproofing Co., this being the first company in Western Pennsylvania to manufacture hollow tile from shale. He felt that he should have greater experience in the sales end of the business and in 1913 removed to Buffalo as manager of the clay products depart-

ment of the Buffalo Builders Supply Co. and afterwards organized the Buffalo Clay Products Co., confining his activity entirely to the sale of clay products. He came to Newark in June, 1918.

William W. Oliver, familiarly known thruout Northern New Jersey as "Billy" Oliver has been with Mr. Reid since the summer of 1906 and thru his faithful and earnest efforts he has built up a reputation as "a hustler" in his line of business. His many friends thruout the territory will feel deeply gratified to learn that he is now a stockholder and an officer in the new corporation and has their continued wishes for success.

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New York Building Activity

In order to meet a widespread demand for up-to-date information regarding employment conditions in New York state factories, the New York State Industrial Commission has made a preliminary analysis showing the trend of employment as indicated by reports received up to and including December 30, which reports are compared with the data submitted by the same firms in November.

In the stone, clay and glass group, two per cent. more workers were employed than in November. With the exception of the manufacture of lime, cement and plaster, this advance was shared by all the industries in this group.

STUDY *of* SILICA BRICK TAKEN *from the* ARCHES *of* OPEN-HEARTH FURNACES

THE RESULTS of examination of brick which have served in the arches of open-hearth furnaces prove instructive as well as very interesting. It was found that the brick examined had four distinct zones where the action had been different.

A—The lower part, which had been in immediate contact with the flames, had a glazed surface with occasional protuberances or stalactites, indicating partial fusion. The fracture was light grey in color and perfectly homogeneous in aspect tho it sometimes was studded with bubbles.

B—The zone adjacent to the lower part usually had a very clear line of demarcation. It was black or very dark grey in color, equally homogeneous as the lower zone, and of considerable hardness.

C—Another zone was the transition zone, which usually made itself evident in the form of white spots occurring in the middle of the black zone, representing large initial grains of quartz which had not been completely absorbed. In some cases the black ground gave place to light brown, the original brick here appearing to have simply been impregnated with a fused brown substance.

D—The topmost zone did not reveal any changes in the brick.

Under the microscope and by polarized light, thin sections of zone B showed large and very transparent tridymite crystals, the space between them, being filled up with an opaque black matrix. In zone A, the tridymite had fused, and the large crystals had been replaced by globules

embedded in, but not intermixed with, the opaque black constituent. In cooling the fused tridymite was transformed into cristobalite, and in some places refrangible patches of ill-formed tridymite could be observed.

In sections studied of zone C, large crystals of tridymite were also found, but gradually diminishing in size and number towards the less heated parts of the brick, till in the D zone the structure was normal, that is, similar to that found in the original brick.

From chemical analyses of the different zones it appears that zones A and B contain a wide range and often considerable quantities of iron. The iron exists in various stages of oxidation tho it approximates very closely Fe_2O_3 . The black ferruginous constituent, which does not mix with the silica in the fused portion of A, is drawn up by capillary attraction between the tridymite crystals of B. It is also probable that the lime in the brick ascends similarly in the form of a fusible silicate which impregnates zone C at the expense of the lower zones (this is true in acid furnaces). The grey and black appearance of zone A and B has no connection with the iron content, but is accounted for by the high transparency of the tridymite crystals, while the indefinite structure of the silica in A renders it translucent.

It is noteworthy, that as proved by direct experiment, the fusibility of the brick is not appreciably modified by the very high proportions of iron oxide; hence, this accounts for the excellent behavior of even the most strongly impregnated brick at high temperatures.—Mark Meredith.

The PRINCIPLES *of* HEAT ABSORPTION

This Article, One in a Series on Power Plant Management, by Mr. June, Deals With the All-Important Problem of Maintaining Clean Surfaces in the Boiler—The Need of Stringent Economies in Boiler Operation Makes the Question of Scale and Soot Removal of Direct Interest to Every Power Plant Operator

By Robert June, M. E.

THE WAR HAS BEEN WON, and the tension under which the power plants of America have been operated is somewhat relaxed—that is, theoretically. Actually, the reduction to date, in demands upon our industrial power plants is merely relative; that is, instead of being called upon to deliver steam to 200 per cent. of their normal rating, they are now permitted to dawdle along at 180 per cent.

Incredible as it seems, the war has nearly doubled America's economic resources. It has added 7,000,000 trained workers, countless blast furnaces, steel mills, and general manufacturing plants. As a result of its demands, very large extensions have been made to our textile, paper, machinery, ceramic, ice and refrigerating plants, and so all the way down the line of industry. In addition to keeping these plants busy, we have the varied wants of an immense new shipping industry to care for. Unfortunately, proportionate extensions have not been made—perhaps have not been possible—to our boiler plants, whether isolated or central station.

Inasmuch as it is a foregone conclusion that we will capitalize our new war-given resources, we are confronted by the following conditions:

First: The coal shortage will continue. Altho the coal situation may not attract so much attention this year as last, because the shortage will be less pronounced, there is no possibility of our mining or securing as much coal in 1919 as we can, or will want, to use.

Second: If many needed power plant extensions are authorized, and boiler manufacturers work to the limit of their productive capacity in 1919, there will still be a boiler shortage, which, of course, means the existing plants must continue to be driven at high ratings.

I have gone into the existing situation at some length, because I am in close touch with it and have some reason for believing that it is not thoroly understood, and also because it places an obligation upon every power plant operator to conserve coal in the utmost practicable degree, by running his boilers on the most efficient basis.

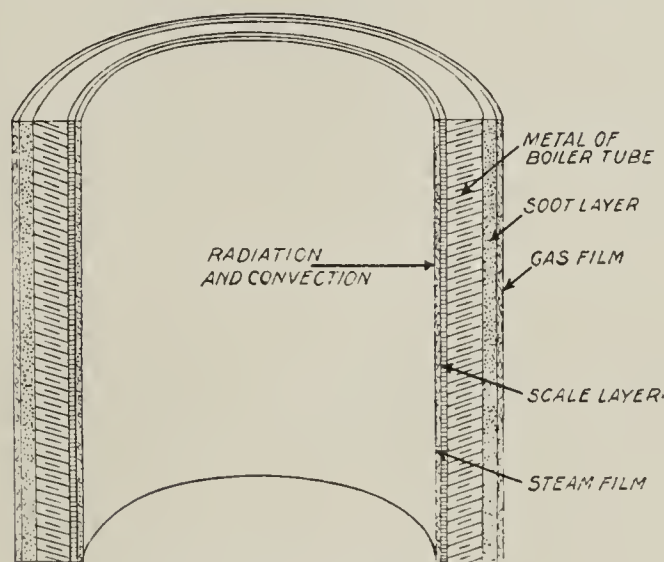
"Cleanliness is next to Godliness," says the age-old proverb. Certainly, we moderns know that it is also next to efficiency—is indeed part and parcel of the latter quality. Nowhere is this truer than in the operation of a steam boiler. How

clearly the United States Fuel Administration recognized the fact, is shown by its assignment of a value of twelve points out of a possible one hundred, to clean boiler surfaces, in determining the rating of power plants.

HOW HEAT IS TRANSMITTED

Heat is transmitted to the water within the boiler by three processes—radiation, convection and conduction. The generally accepted theory of the part each of these processes plays is illustrated in Fig. 1. It will be seen that radiation originates in the fuel bed and hot furnace walls, convection in the hot travelling gases, and that conduction is a function of the metal of the boiler. It is furthermore shown that the heat has to penetrate five layers of interfering substances; namely, a film of dry stagnant gas, a layer of soot, the metal of the tube, a layer of scale, and a film of dry steam.

With the exact or relative values of radiation and convection, we are not here concerned, except to observe that on account of the limitations of refractory materials, there is no great hope of increasing furnace temperatures in the



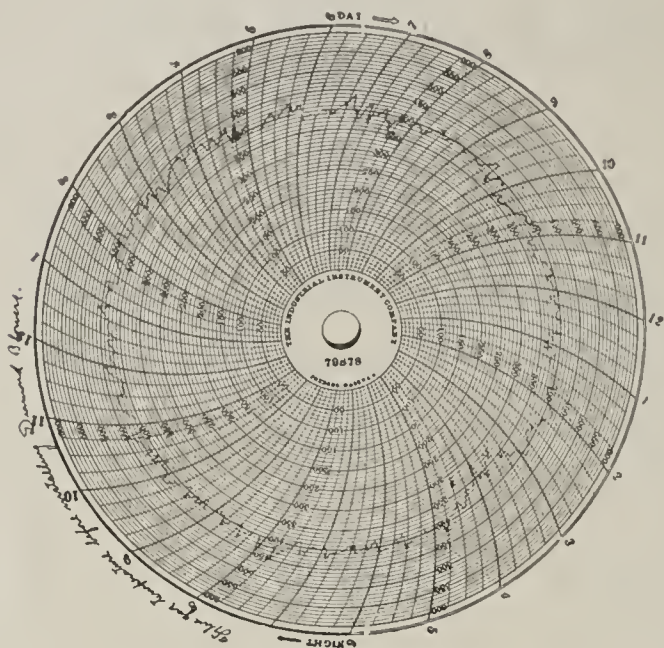
HOW HEAT IS TRANSMITTED
TO THE WATER WITHIN THE BOILER

Fig. 1. Section of Boiler Tube Showing Different Materials Which Heat Must Penetrate to Reach Water in the Tube.

immediate future, and that if we are to increase boiler capacity, it will have to be thru other agencies than convection. Inasmuch as we can greatly increase the amount of the boil-

er surface exposed to radiation, this is the principal line along which we are to look for improvement in boiler and furnace design.

Hardly less important, however, is the necessity for devising means of dispersing the dry gas and steam films on



Record of Gas Temperatures Before Installing a Soot Blower at One Boiler Plant.

either side of the tube. These films are extremely poor conductors of heat. It has been found, as a result of experiments by Professor Nicholson and the U. S. Geological Survey, that by establishing a powerful scrubbing action between the gases and the boiler plate, the non-conducting film of gas can be torn off as rapidly as it is formed, thus bringing new portions of the hot gases in contact with the tube, and thereby greatly increasing the rate of transmission. Similarly, the faster the circulation of the water, the greater will be the scrubbing action tending to remove the bubbles of steam from the wet surface, and the more rapid will be the transfer of heat from the tube to the water. By filling up the tube of a Cornish boiler with an internal water vessel, leaving an annular space of only one inch around the latter, Professor Nicholson found that it was possible to drive the boiler to 800 per cent. of normal rating, with a flow of gases of 330 feet per second. This flow, which is 8 to 10 times the average, was maintained by a fan, utilizing about $4\frac{1}{2}$ per cent. of the total power generated.

I have mentioned these factors in heat transmission, because they presage certain important improvements sure to come in boiler and furnace design, and it is the duty of prospective boiler purchasers to be informed of them, to discuss them with boiler manufacturers, and to lend every encouragement to the latter in their work of devising cheaper means of steam production.

SCALE

Coming now to practical questions of every day operation we find that the formation of scale is only in a limited degree a factor of design, being chiefly dependent upon the rate of driving and the nature of the scale forming ingredients in the feed water.

That the formation of scale should be absolutely prevented by purifying the feed water, or that it should be removed as rapidly as it forms, by scale cutters, or "tube cleaners," as they are called, is one of the most elemental facts in efficient boiler room operation. The loss in conductivity, due to the presence of scale, has never been reduced to a rule or formula, depending upon the thickness, or the degree of hardness and thickness, or the chemical

composition of the scale. The percentage of loss can only be determined in each case by actual tests.

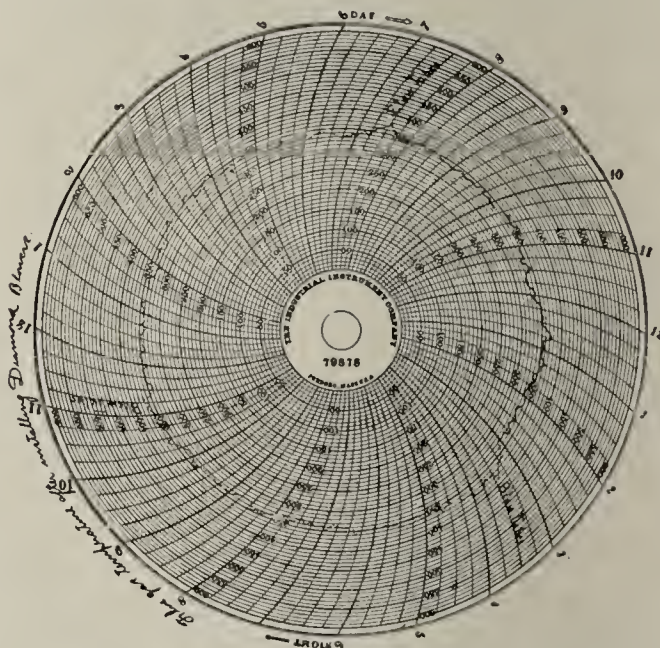
Table I gives the results of a number of tests of loss due to scale, made at the University of Illinois. It will be seen that the results are so varied as to prevent any detailed conclusions—but they do point unmistakably to the very great loss, running from 2 per cent. to 19 per cent. caused by scale—and that they also point to the previously stated very great necessity of absolutely preventing scale formation, or failing this, its removal as soon as formed.

TABLE I			
Influence of Scale on Heat Transmission			
No.	Thickness of Scale	Character of Scale	Decrease in Conductivity due to scale. Per cent.
1	.0	Hard, dense	9.1
2	.02	Hard	2.02
3	.033	Soft	4.3
4	.033	Very hard	3.5
5	.038	Medium	4.03
6	.04	Soft, Porous	6.82
7	.04	Hard, dense	3.07
8	.042	Very Soft	9.54
9	.047	Hard	2.75
10	.065	Medium	2.39
11	.07	Soft	2.38
12	.07	Hard	4.43
13	.085	Soft, porous	19.0
14	.089	Very soft	4.95
15	.11	Hard, porous	16.73
16	.13	Hard, dense	6.75

SOOT

Of all sources of preventable waste, that of the formation of soot on the fire surface of the boiler is the most troublesome. Air leaks in the setting may be found and be hermetically sealed. Losses due to radiation may be largely eliminated by proper insulation of the pipes, and losses caused by excess air drawn thru the grates, may be done away with in a large degree, by the installation of stokers and draft gauges. The formation of soot, however, cannot be stopped by any permanent means. It is an ever present source of trouble. Its deposit on the fire surfaces of the boiler is an ever continuous process.

Soot is all but the best insulator known. In non-conducting properties, it has been proved to be more than five



A Record of the Gas Temperatures After the Installation of a Soot Blower on the Same Plant as That Referred to in Other Caption.

times as effective as fine asbestos. More heat would be transmitted to boiler tubes thru a full one inch wrapping of asbestos than thru one-fifth inch coating of soot. Table 2 is from Kent's hand book.

TABLE II.

Thickness of each substance.....	1 inch
Temperature applied to each.....	310 degrees Fahr.
Temperature increase of water in each case.....	10 degrees Fahr.
No. of pounds of water heated	
Substances	
1. Loose Wool	8.1
2. Loose Lampblack (Soot)	9.8
3. Hair felt	10.3
4. Carded cotton wool	10.4
5. Fine asbestos	49.0

A perfectly clean boiler tube, one-eighth inch thick, will transmit 40 times as much heat as will a tube covered with one inch thickness of soot.

The loss in heat conductivity of boiler plate, due to soot deposit, may be noted in Table 3.

TABLE III

Tickness of soot.	Per cent. of loss
	Clean pipe—0.0
1 ft. 32 in.	9.5
1 ft. 16 in.	26.2
1 ft. 8 in.	45.3
3 ft. 16 in.	69.0

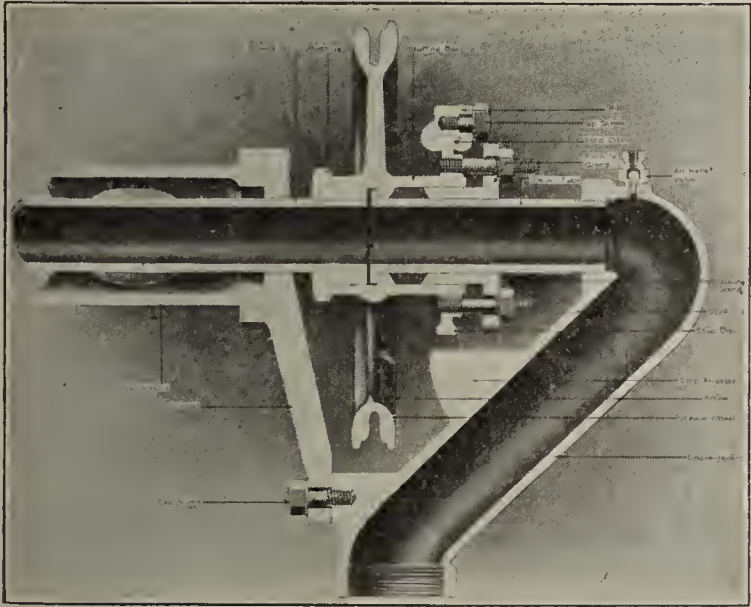
Fortunately, soot does not collect on all surfaces of a boiler in the same proportion. Some portions may be fairly clean while others are thickly coated. This does not lessen the fact that there is a wasteful expenditure of fuel and heat wherever a portion of the tubes are coated.

WHAT SOOT IS

The principal constituent of "pure soot," or lamp black, is carbon. Mixed and associated with this carbon, are various tar products and acids.

Soot as found in steam boilers, varies considerably in appearance and composition, depending upon the grade of coal burned, condition of combustion, and the part of the furnace from which the sample is taken. Nearest the fire, the deposits formed consist largely of ash. Analysis of samples of soot taken from the first pass of a boiler shows in addition to the "pure soot," the presence of silica, alumina, iron oxide, various alkalis and sulphur dioxide.

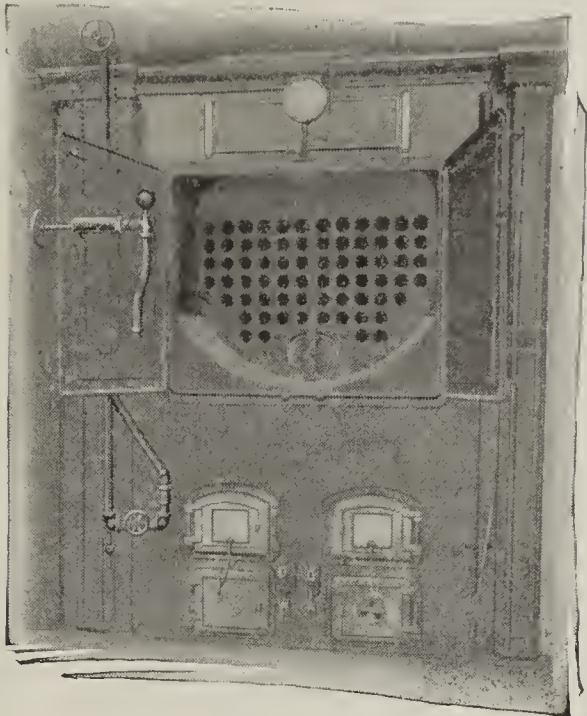
In color, soot varies from black, to gray, grayish white, grayish green, grayish blue, brown and reddish brown.



Cross-Sectional View of the Diamond Model G Type of Soot Blower.

In all but the coolest portion of the setting, soot is usually gritty in texture. The grains may be as large as medium sand, or as fine as ashes. These particles are in a plastic state when they leave the furnace, and striking the lower portion of the boiler, they adhere to the tubes.

If this deposit is not removed frequently, it quickly increases in amount and changes in character. The carbon burns out in part and the mass cements together. The repeated reduction in heating surfaces, increases the temperature of the flue gases, so that the process of cementation



Showing the Installation of a Soot Blower On a Return Tubular Boiler.

is continuous and constantly increasing in intensity. An extremely hard clinker-like formation results. In a short time the space between the tubes in some portions of the boiler, is entirely blocked, thus materially reducing its capacity. In this condition, mining operations alone will remove the deposits.

A bad feature of these deposits is that if they are allowed to remain, the corrosive action of the various constituents of the soot is exceedingly apt to cause leaky tubes. Under the influence of heat, a ferrous carbonate is formed. The excess of air that is always present, brings free oxygen in contact with the ferrous carbonate and the reaction produces ferric acid. Carbonic acid, particularly in the presence of free oxygen, acts very rapidly on the metal of the boiler. Another source of corrosion, is the sulphur dioxide in the soot, which changes first to sulphurous acid and then to sulphuric.

Only the boiler-insurance companies know how many boilers are condemned annually as unfit for operation, years before their natural period of service would terminate. That the number is very high, we know, for cases are constantly coming to light.

HAND CLEANING NOT EFFECTIVE

It is a mistake to think that soot can be removed by the hand-hose method (using steam, thru rubber hose and nozzle). The use of this system arose in the sheer necessity for removing some of the deposits from the tubes. It is admittedly an inefficient and expensive process, as well as being an extremely disagreeable, and, to a certain extent, dangerous task.

Two men are required, one close up to the boiler setting, frequently on a ladder (a delightful position on a hot summer day), and the other at the steam valve. The time employed is usually from 20 to 30 minutes. The nozzle is inserted, the spray of steam goes into the boiler, but whether it reaches all of the soot covered parts of that section, the fireman doesn't know. There is a large section near the cleaning door which he cannot reach at all. He is using a large supply of steam and he is letting an immense amount

of cold air into the furnace. When he moves to the next location, he will blow some of the soot back.

Says the author of "Furnace Efficiency:" "I was talking one time with the manager of a very modern power plant, in the very modern city of Minneapolis. We got around to the subject of soot, and the manager said: 'I will show you that we keep our boiler tubes clean.' He raised the slide from one of the blow holes at the first pass in the boiler. There was a good light from the furnace just below the tubes, and we had a fair view of them. They were reasonably clean. We then went to the back pass of the boiler, but there was no light from the furnace there and we could do nothing. While the engineer was in search of a light, I found a piece of gas pipe, about six feet in length, and thrust this thru one of the blow holes in the last pass and across the tubes of the boiler. I could tell by the feeling of the pipe that here was a surprise in store for my engineer friend. The flashlight showed furrows an inch deep where I had plowed with the gas pipe across the top of the tubes.

Now it is evident that the man who has charge of cleaning these tubes, had not finished his job. He had blown soot from the first pass into the second, and from there into the third. Then he had stopped. Now if things like that happen in a well regulated plant, what can we expect to find in plants that are not regulated."

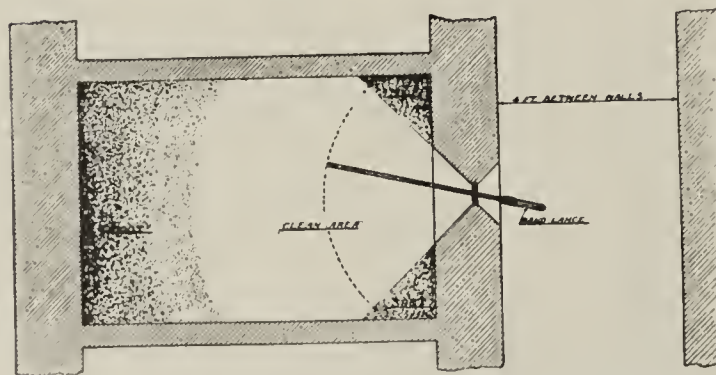
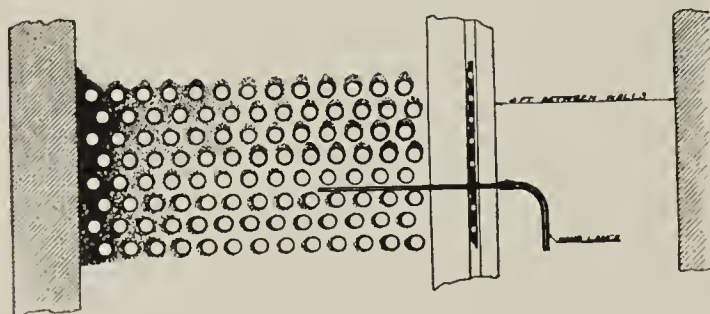
To clean off soot properly, all of it should be blown from the tubes. To blow it from one locality to another does not help much. It is no uncommon thing to find soot so thickly packed into the corners, along the side walls of a water boiler, that you could use a hoe and shovel in removing it.

You want your boiler tubes to conduct heat as rapidly as possible to the water within the tubes. If you want to keep up steam when the soot piles up, you will have to pile in more coal.

FIVE ESSENTIALS IN PREVENTING SOOT WASTE

The five essentials in preventing soot waste are:

1. Frequency in cleaning in order to minimize the cu-



Showing the Ineffectiveness of the Hand Lance. Note the Areas Not Reached by This Type of Cleaner.

mulative effects of increasing deposits. Tubes should be cleaned three to six times a day.

2. Thoroughness in cleaning, in order to maintain high fur-

nace and boiler efficiency, and prevent the destructive corrosive effects of soot accumulation.

3. Availability of system; the soot-cleaner system should be instantly available, automatic in action, capable of rapid operation.

4. Durability of system; the blower units should be so designed and constructed that they will withstand the stress of hard service when placed in the hottest portions of the boiler without necessity for frequent repair or replacement.

5. Economy of operation; the soot-removing system should require less steam and labor than hand-blowing; it should be so installed as to prevent the entrance of cold air into the furnace during operation; it should pay for itself from an investment standpoint.

SOOT BLOWER TESTS

The following extract is from a report by J. A. Hoyer, member A. S. M. E., professor of mechanical engineering, Pennsylvania College, covering a comparative test on a B. & W. boiler at the college power house, equipped with the Diamond soot-blower system.

The comparison was made as regards operation by making two tests with the usual method of hand-cleaning the tubes with a steam nozzle, blowing them off every twelve hours. A second set of tests was made when the Diamond soot blower was used for cleaning the tubes every three hours. Clearfield coal, having a heating value of approximately 13,650 pounds B. t. u. per pound of dry coal, was used in all of these tests. The actual heating value was determined with an oxygen bomb calorimeter for each test and the efficiency then calculated on this basis. Duration of tests one and two, was approximately eight hours, while tests three and four, were run for 24 hours.

	Test No. 1 without soot blower	Test No. 2 with soot blower
Load condition good.		
Water evaporated per lb. of coal as fired, lbs.	8.06	8.72
Equivalent water evaporated from and at 212 degrees per lb. of coal as fired, lbs.	9.50	9.97
Equivalent evaporated from and at 212 degrees per lb. of dry coal, per cent	9.61	10.06
Efficiency, including grate, per cent....	68.3	71.5
	71.5—6.83	
Saving of coal ————— = 4.7 per cent.	.683	

Cleveland Starts Home Building Campaign

What probably means the beginning of a broad campaign for home building in the Cleveland district and northern Ohio generally, was started recently when building and engineering authorities of this city went on record, in resolution, favoring the placing of building operations for the coming year in the hands of Cleveland interests. The move supplements the resolution previously adopted by the Builders' Exchange, in preparation for the readjustment period during which it is expected an enlarged building program will be followed out. Directors of the Exchange claim that in placing the operations entirely in the hands of home talent direct benefit to the community, thru benefit to industry as a whole, will be obtained.

Leading Cleveland interests supporting the movement are City Building Commissioner E. W. Cunningham; B. S. Hubble, architect; G. S. Black, manager of the Cleveland Engineering Society; A. E. Skeel, of the Skeel Brothers

Co., contractors. Voicing the various interests these individuals represent, they claim that while specialized work may be awarded to outside talent, there are few jobs in any form of construction that cannot be handled entirely in Cleveland by Cleveland interests.

The resolution that outlines the program urged by the Builders' Exchange follows: "Whereas, the readjustment period following the war will be marked by a gradual resumption of building operations and other improvements of a public and semi-public character, as well as the starting of numerous projects, by private owners, promoting the growth and development of this city and adjacent territory,

"Resolved that the Builders' Exchange of Cleveland urgently recommends that all boards and administrative bodies, contemplating building projects, as well as all private owners and others in charge of the semi-public buildings and improvements, give special consideration in planning and in carrying on these improvements to Cleveland architects; engineers, building contractors, material dealers and workmen.

"We believe this policy will not only benefit the large elements in the community engaged in this line of industry, but will also tend to stimulate and encourage the general business activity of the community. Immediate benefits will be the assistance given in the recovery of this industry from the depression caused by the war and the work to be provided to returning soldiers.

"In this connection we would call attention of the public to the fact that Cleveland is surpassed by few if any American cities in its ability to manufacture and supply all that is needed for the requirements of its own people. This statement applies equally well to the capacity of the building industry to care for the demands of the community in this particular respect.

"We, therefore, feel that the adoption of the policy for fostering home industries in all possible ways will operate more than anything else to the upbuilding of Cleveland and the realization of its ambitions as a leader among the greatest cities of the country."

* * *

St. Louis Brick Man Advises Bond Issues

R. Stanley Rhoads, general manager of the Evens and Howard Fire Brick Co., St. Louis, Mo., has suggested that the St. Louis press initiate an editorial educational campaign to impress upon the labor element the advisability of putting over a \$22,000,000 bond issue for public improvements in the April election.

"The Chicago press is conducting a campaign of this sort and other big municipalities also are being encouraged to vote liberal bond issues for needed public work," said Mr. Rhoads. "We need this work to keep our plants in operation and provide employment for labor which has been cut off by the cessation of war work. Still more important is the fact that needed public work has been held up by the war.

"In order to start this work, bond issues are necessary and in most cases the approval of voters must be first secured. Now the laboring man is chiefly concerned in this proposition. He will profit more and pay less for the work than any other class of citizens. The big burden will fall on our large taxpayers. The increased cost taxation to the home owners will be practically very small. On the other hand every worker engaged in building construction and general improvement work will find a wider field of employment and better wages.

"I believe that it is up to the public press of the big cities of the United States to encourage these bond issues and a systematic editorial campaign in favor of more public improvements will help tremendously. The laboring man must be shown that it is to his advantage to vote for these bonds issues. It means money in his pocket. The improvements will make our big cities better places to live in. We need all the good sewers, streets, roads and modern public buildings we can get.

"I am in favor of all kinds of useful improvements, such as new hospitals, fire engine houses, police stations, etc. The United States is more prosperous than ever and we can well afford to start this work on a large scale all over the country."

* * *

Fight to Preserve Lien Law

All building supply, brick and allied interests in Cleveland, Ohio, have united to preserve the lien law of Ohio, which under recent seemingly antagonistic action by certain courts, seems to be on the verge of being overthrown. To safeguard their interests, some 75 members of the Cleveland Building Credits Association met at Hotel Hollenden, and the Cleveland contingent was augmented by representatives of the industry from Toledo, Elyria, Akron and other northern Ohio cities. Arch C. Klumph, of the Cuyahoga Lumber Co., presided.

Statements presented by the members tended to show an apparent hostility on the part of Ohio circuit court judges to the law. With this as a basis, the consensus of opinion at the meeting was that every case which detracts from the law, shall be carried to the highest court. This is considered necessary, in view of the strong fight the material interests had to put up a few years ago to obtain such a law. Warren J. Duffy, of Toledo, associate counsel for material interests at Washington, and who introduced the bill that made this law at Columbus, advised those present on future action to take to preserve their rights.

A committee will be appointed to provide ways and means of carrying on the movement. Meanwhile every legislator in the state probably will be approached and advised of the dangers that lurk in any detracting from the law as it stands. On this committee will be, in all probability, W. T. Rossiter, vice-president and general manager of the Cleveland (O.) Builders' Supply Co.; Arch C. Klumph, of the Cuyahoga Lumber Co.; J. V. O'Brien, of the Reserve Lumber Co.; C. H. Prescott, of the Saginaw Bay Co.; H. A. Hauxhurst, attorney from Cleveland, and probably two other material representatives.

* * *

Raritan River Clay Men to Meet

The Clay Miners' and Manufacturers' Association of New Jersey, operating for the most part in Middlesex County, will hold a banquet and meeting at the New Packer House, Perth Amboy, January 30. The time for the dinner has been called at 7:00 p. m., to be followed immediately by a business session, at which it is expected that a number of prominent men in the clay and affiliated industries will make addresses. There are some few important topics up for discussion of vital interest to the clay men in the Raritan River section and a large attendance is anticipated. No meetings have been called during the past few months, owing to general conditions and difficulty in securing a suitable attendance.

Rutledge & T

1515

This Tells the Story

ESTABLISHED 1886
INCORPORATED 1884

H. E. TAYLOR
PRESIDENT

BELL AND INDEPENDENT
PHONES NO. 93

The Kankakee Tile and Brick Company
MANUFACTURERS OF
Brick, Fireproofing & Hollow Building Tile
ANNUAL CAPACITY 80,000 TONS
KANKAKEE, ILLINOIS

CAPITAL & SURPLUS \$300,000.00

S. O. KNIGHT
SECY. AND TREAS.

January 17, 1919.

Rutledge & Taylor Coal Co.,
1515 Fisher Building,
Chicago, Illinois.

Gentlemen:

In reply to yours of January 15th.

We are ready at any time to discuss a renewal of our present contract with you as we have used your coal continuously, with most satisfactory results, since August 1913.

Your service has always been above par but we take this opportunity to express our appreciation of the perfect service which you rendered to us during the war period when there were so many unusual obstacles to prevent the shipment of coal.

Yours very truly,
KANKAKEE TILE & BRICK CO.,
H. E. Taylor.
President.

HET-B

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aha, Nebraska
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St. Louis, Missouri
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Livingston (Springfield District)
Nilwood (Springfield District)
Richland - (St. Clair Co.)

KENTUCKIANS *to* CANVASS STATE BUILDING SITUATION

*Youthful "Blue Grass" State Association Holds Interesting
Round Table Discussion at Louisville Meeting—Seek New
Members Among Fire Brick and Pottery Manufacturers*

WITH ABOUT FIFTEEN MEN present, the third annual meeting of the Kentucky Clay Products Association was called to order on the morning of January 21, at the Louisville Old Inn Hotel, by President Harry C. Cramer, of Lexington, Ky., with all officers present including: F. C. Klutney, Henderson, Ky., first vice-president; Isaac H. Tyler, Louisville, second vice-president; J. T. Howington, Louisville, treasurer, and J. Crow Taylor, Louisville, secretary.

There was nothing of especial importance at this regular meeting, and it developed into an excellent round table discussion of the various important conditions affecting general building, chief of which are labor, price of material, coal and the outlook for general business. Everyone present got into the discussions more or less, there being no set or formal program of any kind.

H. Bishop, of the Southern Brick & Tile Co., led off the discussions, stating that he believed in the policy of the boys getting together and stating their views. He said that individually things look quiet, and that it is a question as to when they will again open up.

Isaac H. Tyler, of the R. R. Tyler Co., Louisville, stated that he felt rather optimistic, as he knew to a certainty that there was a considerable amount of business on the architects' boards at this time, altho it had been impossible to find out what the jobs were. He stated that he had attended conventions in other lines lately, and that a number of material, machinery and other men, not only at Louisville, but in other sections, believed that it would be a good year, especially in some localities which were prosperous during the war period.

FAIR VOLUME OF SMALL BUILDING EXPECTED

James T. Howington stated that he personally believed there would be a fair volume of small building done by people who had the money, especially workingmen who have been making high wages and who believe in building when they have the wherewithal, instead of waiting for prices to come down. Mr. Howington suggested that every member of the organization canvass his own city and district and endeavor to get a line on the amount of work in prospect for the year, as shown by the architects' records, not the individual jobs, which architects would be unwilling to give out, but estimates in dollars and cents of building in prospect. This would enable the brick men and general building trades to better estimate the season's needs, and be a better guide in production.

The question was asked as to whether or not there were not a number of postoffices to be erected in the state this season, and it was stated that several brick post-office contracts had been holding fire, and would probably come to life within a short time. The matter of Federal Farm Loan Banks, and the great aid they have been to the farmer and the building trades was also brought out.

Inaccuracy of many reports dealing with building conditions thruout the country was a matter which was discussed. One member stated that he had seen an estimate in which Kentucky was slated at a million dollars, whereas Louisville alone in a good normal year will run from \$4,000,000 to \$6,000,000 of estimated permits, which will generally run well over the estimated total, which naturally is placed low. Considering the amount of work that has been shelved during the past four years, and considering the fact that restrictions are off, an estimate of a million for the state would be a real joke. Again, many of the large concerns in building plants get outside of the city proper to escape taxation.

Getting information concerning proposed work and the volume of it for 1919 is a much harder proposition in Louisville than it is out in the state, especially in the small towns where very little secrecy is shown by owners or architects concerning the jobs in prospect. However, this matter was touched upon several times, and it was stated that if every member secured all the information he could, and had it compiled by the association, it would be a great aid in planning for the future. Many of the small plant operators stated that they would have very little trouble in lining up the work in their respective districts.

H. C. KLEYMAYER TALKS ON GENERAL SITUATION

H. C. Kleymeyer, of the Standard Brick Co., Evansville, Ind., who was present at the meeting, made an interesting talk on the general situation. Mr. Kleymeyer said: "Consumers in every possible line are looking for reductions of some sort. If prices are generally cut the country will face a more depressing period than if prices are maintained, and things go along smoothly. If materials are going down rents will have to remain at about the same level. It is a question of lower materials or higher rentals to some extent on building property. In fact, if business conditions remained about as they are rentals in many instances would have to be higher to influence building of rental property. Many big employers believe that wages will have to remain high, and feel that if they start cutting wages they will undermine a fair situation. If labor once gets up in the air there will be something doing, and organized labor is very strong today. Labor today is not much weaker than it has been, but a better class of labor can be had. Coal prices are slightly weaker for immediate delivery, but not for contract purposes. During the past year we ran about fifty per cent. of normal capacity, but our overhead did not decrease along with production."

James T. Howington remarked that in average building construction at least thirty per cent. of the construction consisted of masonry, and of that at least fifteen per cent. ran to brick work. "If brick prices were cut twenty per cent. there would only be a three per cent. reduction on the job. Cutting prices of any one line of material would

not result in materially lower building prices. Prices as a whole will either have to remain high, or drop gradually and together. Otherwise some lines would get preference over others. In the manufacture of lime, cement, brick and most materials, labor and coal are the two greatest factors, with freight rates a matter to be considered. Freight rates stand as much chance of going higher as lower just now. Materials and labor are the two principal costs in producing brick. The great volume of road work that is being advocated, and which is in reality developing, is expected to keep up prices of cement, sand, gravel and crushed rock fairly well." There is a lot of road work outlined for Kentucky and Indiana this season, according to Mr. Howington.

POST CIVIL WAR AND PRESENT CONDITIONS COMPARED

Discussion of conditions following the Civil War and the present war were brought out. It was stated that following the Civil War prices dropped something like thirty per cent. However, conditions at that time and now are quite different. At that time America alone was in a war, and all other countries were ready and able to supply food, clothing, material, etc., at normal prices due to normal conditions thruout the rest of the world. The result was that with low import tariffs, values were forced to decline. Today, however, the rest of the world needs materials and equipment of various kinds, much rebuilding will have to be done before European products enter competition to any extent and general peace will have to settle over Europe before labor again works the farms and is generally employed. Conditions today, and those facing America following the Civil War are so entirely different, that a rapid decline in values is not considered near so imminent.

L. Ruby, of Providence, Ky., which is in a coal mining district, stated that he has sold a lot of material during the past year to be used in construction of negro homes costing \$2,500 and \$3,000, built by high-paid negro miners and laborers. This also brought out discussion of agricultural conditions, and the tremendous prices at which tobacco is now selling, and at which hogs, corn, wheat, etc., are selling. The rural districts were claimed to be very prosperous. Mr. Kleymeyer, of Evansville, stated that the city banks showed increases of approximately one-third in balances carried by country banks in agricul-

tural districts, due to the fine financial conditions of the farmer. Oil in eastern Kentucky is selling at \$2.60 a barrel, as against fifty cents a few years ago, and a number of refining plants, requiring considerable brick have been erected. Corn has been selling around \$1.50 to \$1.75 a bushel for some time, while the Government has guaranteed the farmer a price of \$2.20 for 1919.

An interesting discussion arose concerning the demand for brick in event the Government decides to make permanent military posts of Camp Taylor and Camp Knox. Those present were of the opinion that the present wooden barrack buildings would be veneered in brick, or stuccoed in event the camps become permanent, which it is generally believed they will. At Jeffersonville, Ind., brick and tile construction was used in permanent construction for the quartermaster department. Considering the tremendous number of buildings at Camp Knox and Camp Taylor brick veneering would result in a demand for many, many millions of brick, and would keep the plants of the district busy for a long time to come.

WHAT WILL BECOME OF DISTILLERY BUILDINGS?

T. Bishop, of Louisville, asked the association what was the prospect concerning utilization of old distillery warehouses, now that prohibition is a certainty and of the distillery buildings themselves? He stated that in event they were torn down, and the old brick sold on a high market in competition with new brick, it would have a tendency to lower the price of new material, and stated that every brick man should discourage as much as possible the policy of wrecking old buildings for the material. He related how he had used his influence in two cases recently in preventing the tearing down of old warehouses, which could be sold on a high market. He referred to the work of the Louisville Industrial Foundation, the so-called million-dollar factory getting organization of Louisville, believing that this organization with its big resources could aid somewhat in finding people who could use the old distillery and warehouse buildings.

In this connection it was stated that at various parts of the state, old warehouses are being turned into tobacco warehouses. In many districts the warehouses are of frame or frame and iron construction, but Louisville unfortunately has quite a number of very good brick warehouses, the interior construction being of wood frame-



Harry C. Cramer, President

J. Crow Taylor, Secretary

James T. Howington, Treasurer

OFFICERS OF THE KENTUCKY CLAY PRODUCTS ASSOCIATION REELECTED FOR THE ENSUING YEAR.

work, with tier upon tier of open barrel racks. To utilize such buildings for other purposes it would be necessary to do considerable remodeling, altho many of them could be used for tobacco with just a slight bit of remodeling.

Several members discussed this problem, both from the standpoint of general tearing down of old property for high-priced, second-hand material, and from the standpoint of what Kentucky is going to do with her distilleries. Alcohol manufacturing has been tried to some extent, but alcohol is not aged in warehouses, and there would be no need of maintaining them. However, alcohol manufacturing has not proved profitable in Kentucky, where the distilleries are built for manufacturing limited quantities of beverage whisky, and cannot be operated on a profitable basis without quantity production.

BUILDING AND LOAN ASSOCIATIONS DESIRABLE

The work of the Building and Loan Association was also discussed. The general building trades owe a great deal to these organizations in financing small property owners in erecting homes, and in buying the property. The Building and Loan Association when operated on a business basis and operating honestly should be encouraged in every way possible. In this connection the defaulting of a man named Martin, formerly with a building and loan organization of Louisville, was brought up. Martin disappeared a year ago, wrecking the organization with which he had been for several years. Martin stole large sums from everyone he could possibly hook up, getting widows and orphans, negroes, poor whites and ignorant people to sign deeds to their homes, believing they were signing receipts for money paid in. His operations were such that many investors became skeptical of building and loan organizations. Martin got away with approximately a quarter of a million dollars, most of which was apparently lived up and gambled away. The need for prosecuting such men, and dealing out extreme penalties, is very essential in order that the building and loan associations have the confidence of the people with which they come in contact as well as contract.

The secretary's report showed that very little had been accomplished by the association during the past year due to the fact that members were very busy with war work of one kind or another, and had not had much chance to get together. This is the first real meeting that has been held since 1917 when the body was launched, as last year there was a very limited attendance due to bad weather and the discussions were short and rather uninteresting. However, during the year the association launched several district organizations thruout the state, which will eventually lend considerable strength to the state body.

WANT LARGER MEMBERSHIP

Just how the organization is going to get the fire brick and pottery people interested and to attend the meetings is a problem at this time. Fire brick men as well as pottery men seem to feel that they have their own organizations. However, the face and common brick and tile men have their own national organizations also, but such organizations alone cannot fight legislative enactments, or deal with problems affecting a state or district. There are several fire brick manufacturers in Kentucky and several pottery concerns. One of the latter is very interested in the organization, and had expected to be present at the meeting. One of the largest fire brick manufacturers of the state is in the organization, and another is planning to come in. However, this body is composed of clay workers, not common brick, face brick, fire brick, pottery, tile, sewer pipe or any one line. Any producer of

clay or any producers of manufactured products is eligible for membership and they are all needed in order to make a large and strong body that will be in position to accomplish things. During the year a harder drive will be made for the pottery and fire brick manufacturers and for membership. Many small plants have been doing a jobbing business for the past two years, but are again getting ready to run and should back the organization.

At this point the meeting adjourned for luncheon, which was served in the Louisville Old Inn Grill room. Shop talk went ahead to a considerable degree during the meal, with several minor matters brought out.

Following the luncheon the organization re-elected officers with H. C. Cramer, of Lexington, as president; F. C. Klutey, first vice-president; Isaac Tyler, second vice-president; J. H. Howington, treasurer; J. Crow Taylor, secretary. Three directors were elected to fill the expired terms of three one-year men, there being nine directors, who with the officers form the board. The new directors are: L. Ruby, Providence, Ky.; Isaac H. Tyler, Louisville; A. H. Schneider, Nicholasville.

It was decided that another meeting will be held within a month or six weeks, probably just after the meeting of the national association, to discuss conditions as existing at that time, and matters brought out by the national organization. It is believed that conditions will be in better shape to arrive at conclusions by that time.

Government control of railroads came up for discussion and while one man favored the idea, he withdrew his favor when told that the various business organizations and shippers while opposed to Government control do favor direct routing, free shipping at terminals on the interchange plan and pooling of car stock. The balance of the organization was generally opposed to federal control, claiming it unnecessary. No action was taken, however.

Action was taken under which the secretary will make a survey of the state building outlook and prospects, with aid from members relative to prospects in various localities. This will be briefed and sent out by mail to the members.

Present at the meeting were:

H. C. Cramer, Lexington (Ky.) Brick Co.

H. C. Kleymeyer, Standard Brick Co., Evansville, Ind.

J. Crow Taylor, Louisville, Ky.

F. C. Klutey, Kleymeyer Brick & Tile Works, Henderson, Ky.

Isaac H. Tyler, R. B. Tyler Co., Louisville, Ky.

James T. Howington, Coral Ridge Clay Products Co., Louisville, Ky.

T. Bishop, Southern Brick & Tile Co., Louisville, Ky.

L. Ruby, Providence (Ky.) Brick Co.

A. F. Kleymeyer, West Point (Ky.) Brick & Lumber Co.

H. J. Suhrheinrich, Standard Brick Co., Evansville, Ind.

L. M. Parson, R. B. Tyler Co., Louisville, Ky.

A. P. McDonald, P. Bannon Pipe Co., Louisville, Ky.

Andrew Hillenbrand, Hillenbrand Brick Manufacturing Co., Louisville, Ky.

A. H. Schneider, Nicholasville (Ky.) Brick Co.

A. W. Williams, representing *Brick and Clay Record*, Chicago, Ill.

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The brick plant of Roger Moore's Sons Co., on the Castle Hayne road will be abandoned and the machinery removed to the company's other location at Acme, N. Car. Additional machinery will be purchased and modern kilns will be erected. When completed it will be one of the most modern brick manufacturing plants in the state and will have a capacity of 60,000 brick.

HOW SLAG TEMPERATURES AFFECT FIRE BRICK

A Paper Presented at a Recent Meeting of the Refractories Manufacturers Association—Reprinted from the "Iron Trade Review"

By Raymond M. Howe

*Industrial Fellow, Mellon Institute of Industrial Research,
University of Pittsburgh, Pittsburgh, Pa.*

DURING the present period of intense industrial activity, the linings of the various furnaces have played an important role in determining their capacities. In some cases the fire brick of special shapes have given long continuous service, while in other cases the results have not been as satisfactory. As a result, there has been some discussion between the consumers and manufacturers of fire brick as to the relative merits of this product, the consumers often claiming that it is not of the pre-war standard and the manufacturers maintaining that it is of equal quality. The latter maintain that the shorter life of refractories, when encountered, is often due to the more severe duty which is imposed upon this product during the struggle for an ever-increasing output of metals.

The work here presented was carried out for the purpose of determining the action of various slags at different temperatures on several standard brands of fire brick. The data secured would therefore appear to bear directly upon the question at issue, for it is well known that a common means of increasing production consists of increasing the working temperature.

The general plan was to secure brick of recognized quality and to test the action of several slags upon them at different temperatures. The method used for determining this action was essentially the same as is used by the Carnegie Steel Co. At that laboratory a brick is heated to a definite temperature and 35 grams of slag are placed in a cavity at that temperature and are allowed to act for two hours.

Before adopting this method certain points were checked pertaining chiefly to the influence of the time of action, and the quantity of slag used, upon the results secured. Tests were made in which the time and slag were trebled, but this procedure failed to produce a more pronounced action upon the cavity in the brick. In reporting the results, the total cross-section of the slag saturated area was first measured by means of a planimeter. The area of the original cavity was then subtracted from this. The difference represented the area of the section which had been penetrated by the slag. This area when divided by the linear surface of contact gave a value which represented the square inches of penetration per inch of contact.

The results given in Table I confirmed those reported by Nesbitt and Bell and lead to the same conclusions, that is, when a brick having a cavity $2\frac{1}{2}$ inches in diameter is treated with 35 grams of slag and it is allowed to react for two hours satisfactory results are obtained. In the preceding work 35 grams of slag reacting for two hours resulted in a penetration value of 0.64. When the severity of this test was

increased 600 per cent., the penetration factor increased but 12.5 per cent.

METHOD OF PROCEDURE

In view of this preliminary work, the following definite method of procedure was adopted. The test brick, each having two cavities $2\frac{1}{2}$ inches in diameter by $\frac{1}{2}$ inch in depth, were heated slowly to the temperature at which the test was to be made. This temperature was held for $1\frac{1}{2}$ hours. Thirty-five grams of slag were then introduced and were allowed to react at this temperature for 2 hours. The brick were then allowed to cool, were cut thru the center of the cavities, and the penetration was noted in the manner previously described.

Six slags, which were secured from the Carnegie Steel Co.'s laboratory, were used during the tests. Their analyses and fusion points are given in Table II. The three brick used are designated by A, B, and C.

By following the method already described and varying the brick, the slag and the temperature, one at a time, the average results shown in Tables III, IV, V, VI, VII and VIII were secured.

In each case the slag penetrated more deeply into the brick at higher temperatures. In several cases an increase of 100 deg. C. or less than 10 per cent., resulted in nearly doubling the penetration.

This increased penetration has several effects in actual practice. One effect concerns the strength of the brick itself. It is a known fact that brick when saturated with slag are not so strong at high temperatures as when they are free from slag. This decreases their ability to sustain the weight of the other parts of the furnace. The refractoriness of the lining is also decreased when it becomes soaked with slag.

The lining is also subjected to more severe chemical action. This action takes place rather slowly in many cases, but rapidly in others. In any event, the action takes place sooner when the slag forces its way further into the inner portions of the lining. Being more active at higher temperatures, its solvent power is also increased.

In view of these tests, it would appear that the relation of output and the life of the lining is similar to the rate of driving and the life of an automobile. Cars which operate successfully for 50,000 miles when driven at the rate of 20 miles per hour give much less service when driven 40 miles per hour. These same cars when subjected to the gruelling ordeal of a stock car race occasionally fail to complete the first 100 miles.

Such conditions are constantly encountered when any product is driven to its limit. Such being the case, it is not fair to compare the lives of furnace linings on the daily basis.

Tests Showing Influence of Temperature of Slag Upon Life of Firebrick

Table II

ANALYSES AND FUSION POINTS OF SLAG TESTS

	Slag	Blast	Heating	Basic	Acid	Zinc	Copper
		Furnace	Furnace	Open Hearth	Open Hearth		
	Silica	37.32	34.16	18.42	46.48	34.30	28.20
	Alumina	13.21	6.13	3.85	5.45	14.74	2.20
	Iron	1.62	43.60	14.55	29.30	21.00	2.10
	Lime	42.20	1.30	44.10	2.16	2.33	2.51
	Magnesia	2.35	.65	6.32	.00	7.07	2.14
	Manganese	1.11	.55	5.09	9.08	6.77	.00
	Sulphur	1.20	.27	.42	.38	5.88	.14
	Phosphorus .....	.00	.02	.58	.00	.02	.24
	Copper .....	.00	.00	.00	.00	1.28	58.21
	Zinc .....	.00	.00	.00	.00	8.20	.00
Melting point		1220 deg. C.	1050 deg. C.	1275 deg. C.	1400 deg. C.	1025 deg. C.	1020 deg. C.

Table I

INFLUENCE OF TIME AND QUANTITY OF SLAG
USED UPON RESULTS SECURED FROM
SLAG TESTS

Penetration of 35 grams of slag in two hours	.64
Penetration of 35 grams of slag in four hours	.68
Penetration of 35 grams of slag in six hours	.64
Penetration of 105 grams of slag in two hours	.76
Penetration of 105 grams of slag in four hours	.72

Table III

PENETRATION OF HEATING FURNACE SLAG,
MELTING POINT 1050 DEGREES CENT.

Brick	Temperature of Test			
	1150° C.	1250° C.	1350° C.	1450° C.
Type A..	.04	.09	.15	.34
Type B..	.02	.05	.11	.79
Type C..	.07	.10	.24	.78

Table IV

PENETRATION OF BLAST FURNACE SLAG,
MELTING POINT 1220 DEGREES CENT.

Brick	Temperature of Test		
	1250° C.	1350° C.	1450° C.
Type A.....	.03	.08	.14
Type B.....	.00	.11	.17
Type C.....	.07	.12	.17

Table V

PENETRATION OF ZINC SLAG, MELTING
POINT 1025 DEGREES CENT.

Brick	Temperature of Test			
	1150° C.	1250° C.	1350° C.	1450° C.
Type A..	.03	.13	.28	.19
Type B..	.04	.16	.29	.32
Type C..	.05	.24	.33	.43

Table VI

PENETRATION OF BASIC OPEN-HEARTH
SLAG, MELTING POINT 1275 DEGREES
CENT.

Brick	Temperature of Test	
	1350 deg. C.	1450 deg. C.
Type A.....	.58	.73
Type B.....	.29	.33
Type C.....	.44	.55

Table VII

PENETRATION OF ACID OPEN-HEARTH SLAG,
MELTING POINT 1400 DEGREES CENT,
AT 1450 DEGREES CENT.

Brick	Penetration
Type A.....	.24
Type B.....	.33
Type C.....	.57

Table VIII

PENETRATION OF COPPER SLAG, MELTING
POINT 1020 DEGREES CENT.

Brick	Temperature of Test	
	1150 deg. C.	1250 deg. C.
Type A.....	.46	.65
Type B.....	.36	.57
Type C.....	.52	.62

Neither is it fair to compare them on the tonnage basis, when one furnace is worked at moderate and another at maximum capacity. Under conditions occurring with increased output, they must be compared according to a sliding scale. If a furnace is operated under such conditions that the daily output of metal is increased 50 per cent., it cannot be expected to last as long, or even two-thirds as long (dur-

ing which time equal tonnage would have been secured), but from one-third to one-half as long. The consumer should realize this and balance his costs under normal production against those under increased production. If the balance is in favor of conditions of increased production, he must, if he uses the most suitable material, expect to encounter continued shorter service from linings.

Oregon Clayworkers Hold Live Meeting

The Oregon Clayworkers Association held its fifth annual meeting in Portland, on the 7th and 8th of January. The meeting was well attended and the various reports of the president and secretary showed a very healthy condition. Members protested against the two cents freight increase on brick and drain tile, especially on the short haul, and a protest will be filed with the proper authorities. The meeting did not favor the taking of membership in the Common Brick Manufacturers Association individually, but would favor the association to become a member in that society, and steps will be taken to that effect.

The following officers were elected for 1919: C. W. Corbett, of Corvallis, president; T. S. Mann, of Portland, vice-president, and as secretary treasurer, Samuel Geijsbeek, of Portland was re-elected. Mr. Frank C. Moore, of the Denny-Renton Clay & Coal Co., was elected a director for two years.

The program was closely followed and many good points were brought out. A joint meeting with the Oregon State Drainage and Irrigation Congress was held on January 8 and all members attended. Business will be good this coming year and prices will be about the same, as there is no prospect of wages and fuel being reduced.



The Dunn Wire-Cut Lug Brick Co., of Conneaut, Ohio, has been given the decision by the United States Circuit Court of Appeals, in its suit against Joseph Nicholson, of Toronto, Ohio, for infringement of patent. The court affirmed the validity of the Dunn patent on wire-cut lug paving brick, and states that an injunction should issue against Nicholson restraining him from making or selling the brick claimed to be an infringement of the Dunn patent. The case has been in the courts for two years and the result will be of interest to the paving brick industry thruout the country.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

ENGLISH POTTERY MANUFACTURE



THE POTTERY INDUSTRY of the Stoke-on-Trent district employs about 80,000 persons, directly or indirectly, and pays out wages amounting to \$17,032,750 per annum. The annual output reaches a value of \$34,065,500. Since the war the firms engaged in the manufacture of pottery have been fully employed and have been able to supply great quantities of goods which have hitherto been made on the Continent.

There has been an acute shortage of male labor, but the women have risen to the occasion splendidly and have enabled the various firms to carry on business under unprecedented conditions. In normal days the supply of both male and female labor is abundant.

ELECTRICAL PORCELAIN AND CHEMICAL WARE

The manufacturers of electrical porcelain are greatly varied in both design and character and include insulators for telegraphic, telephonic, and wireless purposes; for railways and tramways; heating, lighting, and domestic purposes; and for motor power.

Now that the British electrical firms have been compelled by circumstances over which they had no control to manufacture their own supplies, they may realize that home production will eventually pay, as the greatest care is taken to secure really first-class materials, accuracy in sizes, and completed goods that will insure perfect insulating conditions even when subjected to violent changes of temperature.

British laboratory porcelain, with a British kaolin as its most important constituent, is an accomplished fact.

The more immediate needs of the laboratory were found to be analytical basins and crucibles of many sizes, combustion boats, and funnels of an apparently limitless number of shapes, calling for working drawings, models and molds that are not to be produced in war time in a day, a month, or even a year.

The shapes, new to the home manufacturer, demanded modified methods of treatment and novelty in equipment, and the fact that so much research work is strictly standardized made it necessary that the Berlin patterns should

be followed as closely as possible. In this the home trading houses gave invaluable help, not only in supplying many necessary German examples, but in giving information as to the peculiarities of their use. The manufacturer is rewarded today by a general approval of his efforts and by the knowledge that he has shown himself able, at fairly short notice and under adverse conditions, to supply an important war need. He will, naturally, invite support at home and in the over-sea dominions, for a British-made article.

PORCELAIN MAKING AN ART—EARTHENWARE

China clay from the Cornish beds, flints from Kentish chalk quarries, sea-washed boulders from the French coast, blocks of granite, animal bones from home sources or Argentina, borax, whiting, lead oxide, paints, and enamels—these are the elements from which the potter fashions the beautiful porcelain which is the choicest expression of this art. Many brains have contributed to the reputation of this district for high-class china, and there is no final word in the process of improvement.

In place of the examples of skilled handicraft which still persist for the fashioning of porcelain, the typical earthenware factory will in the future be manned rather by men skillful in the handling of machinery. The old potter's wheel has been replaced to a vast extent by the jigger and the jolly and the hollow-ware pressing and casting methods. These adjuncts are used also in the making of china, but for earthenware they are the dominant feature. A modified form of jolly is used even for the shaping of oval ware. The impression made on a visitor to a pottery is that a standardized product is being turned out at a rate limited only by the capacity of the machine and by the deftness of the men and women in charge of the equipment. It is repetition work subdivided to a very fine point and framed on lines which make for the highest degree of efficiency.

Other than what may be termed the standard body is also obtained by the use of specially selected lighter burning clays and the employment of complex glazes, a combination which gives an ideal surface for decoration. This is earthenware at its best, and in appearance it challenges comparison with china. The bulk of the output of the factories in this branch of the pottery industry is, however, for general utility purposes; it is the needs of the million that are catered to. In a word, the production of earthenware is a business; the making of porcelain, an art and craft.

TILE AND POTTERY—MECHANICAL APPLIANCES USED

Numerous factories in the Staffordshire potteries are now engaged in the production of encaustic and majolica tiles, the latter having the surface molded into relief patterns. These tiles, after being fired in the biscuit oven, are coated with glaze and receive a second firing in the gloss oven. Glazed tiles with a plain surface, either white or tinted,

AMONG *the* POTTERIES

The Cook Pottery Co., Trenton, N. J., is now engaged in the manufacture of a number of important electrical porcelain specialties for well-known electrical companies. The works is giving employment to about 250 persons and is now operating in all departments, with a diminishing of production in certain sections of the works. Another department of the plant is devoted to the manufacture of porcelain specialties for textile service. Articles heretofore made in Germany are now being produced in large quantities—for instance porcelain "pig-tails," consisting of a porcelain spiral about $\frac{1}{16}$ inches in height and $\frac{3}{16}$ inches in diameter, made with the use of steel dies, with cored hole about $\frac{1}{8}$ inch in diameter. This little article resembles in shape the horn of a Dorset Horn ram. It is understood that this is the only plant in this country producing this specialty and perfection has only been accomplished following considerable experimental work in the months past. These same articles are also made in larger size, about $\frac{7}{8}$ inch in height and $\frac{1}{4}$ inch in diameter. Charles Howell Cook, president of the company, has recently returned from a business trip to the Middle West and says that the outlook for building work of all kinds in cities such as Detroit, Pittsburgh, etc., is decidedly bright. In speaking of the labor situation, Mr. Cook sets forth that the matter of labor is a large factor in the clay working industry, being required to get the material from the ground and for the manufacture into different articles. With no indication of a drop in the scale of wages, the possibilities of a decline in the present prices of commodities in which clay of different kinds is an important, and in fact the essential ingredient, is quite remote, and in his opinion the tendency will be for an advance, unless there is a decided change in the situation.



Recent issues of "The Anchor," the interesting house publication of the Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary earthenware, shows constantly increasing scope of attainments for this semi-monthly magazine issued for the general betterment of the plant and its employes. The Christmas number has an article by A. M. Maddock, "I Am Proud of You," setting forth the record of employes during the war period; a total of 62 men, or about 16 per cent. of the total number of workers at the plant, were in the service, two of whom lost their lives at the front. During 1918, the employes subscribed to the Liberty Loans to an amount of \$54,750. Other references in this issue are made by H. S. Maddock and C. S. Maddock, Jr. The paper carries a total of 16 pages of solid reading matter, all of which is interesting and pertinent to the day; it is now in its seventh volume. In passing, it is of interest to note that during the coming year the company will celebrate its sixtieth anniversary, and on this point, H. S. Maddock says: "During all these years our business has been built on a foundation of high quality and fair dealing. Such a policy has naturally given us an enviable position in the trade and consequently our wares are foremost wherever quality is demanded. The opportunities for everyone here are unlimited simply because the opportunities of the company are unlimited. We have continually expanded and if everyone of us, regardless of position, will render the best service possible, we can and will make Thomas Maddock's Sons Co. the foremost manufacturer in the sanitary earthenware industry."

A small but remarkable collection of genuine old Satsuma pottery has been acquired by the Reading (Pa.) Public Museum and Art Gallery. Satsuma pottery has long been one of the most important industries of Satsuma, Japan, and the older pieces of this ware are becoming very rare, owing to the great demand by collectors and museums and the comparatively few pieces produced. The specimens received are all small, signed by famous artists, and exquisitely made. They are decorated with minute landscapes, with tiny figures of people and trees,—whole scenes illustrating the domestic life of the Japanese; wonderful flowers and animals; besides much elaborate and delicate medallion work. The specimens came from the collection of one of America's most famous collectors, recently deceased.



The removal of the Government restrictions on the use of fuel for florists is viewed with great satisfaction by the Ritger Excelsior Pottery Co., Newark, N. J., which is now specializing to a large extent in the production of flower pots and kindred articles. A large volume of trade comes from the floral interests, and the handicap thru the fuel ban has naturally reverted to affect the demand for this pottery. Considerable of the clay for this production comes from the vicinity of Morristown, N. J., as well as from the Raritan River section, and the high art shown in the different specialties produced speaks well for the character of the mixture and other features of manufacture.



Potteries at Trenton, N. J., are practically all operating at reduced output at the present time, excepting some of the general ware plants which report capacity production and good demand for the material. The sanitary potteries are running at about 60 per cent. of normal, while the plants devoted to electrical porcelain manufacture are operating at about a like status. Labor is now plentiful and a large number of former employes who left to join the colors are back at the works. On the whole the outlook is said to be good and there is but little complaint on the part of the various manufacturers who take the situation as it stands just for what it is worth in actual business.



Pottery manufacturers and business men interested in the pottery industry from East Liverpool, Wellsville, Salineville, Steubenville and other pottery towns of the Ohio Valley participated actively in the two-day convention of the United States Potters' Association in New York City, which closed on January 8 with a banquet at the Hotel Astor.



The branch plant of the Locke Insulator Manufacturing Co., Victor, N. Y., at Lima, N. Y., devoted to the production of porcelain insulators for high-tension electric service, was destroyed by fire January 8, with loss estimated at about \$100,000. It is reported that the plant will be rebuilt.



The Pine Bluff (Ark.) Brick Co. has announced the surrender of its charter.



The Wichita Falls (Tex.) Brick & Tile Co. has decreased its capital stock from \$275,000 to \$156,800.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Avoiding Excessive Boiler Scale

A number of men have wondered why oftentimes scale forms more rapidly on boiler tubes after they have once been cleaned. This usually is because sufficient care was not exercised in the cleaning operation to prevent scratching the skin or surface of the metal.

Whenever the boiler tube surface is scratched or cut, new scale will stick to it more tenaciously and will thus be more difficult to remove.

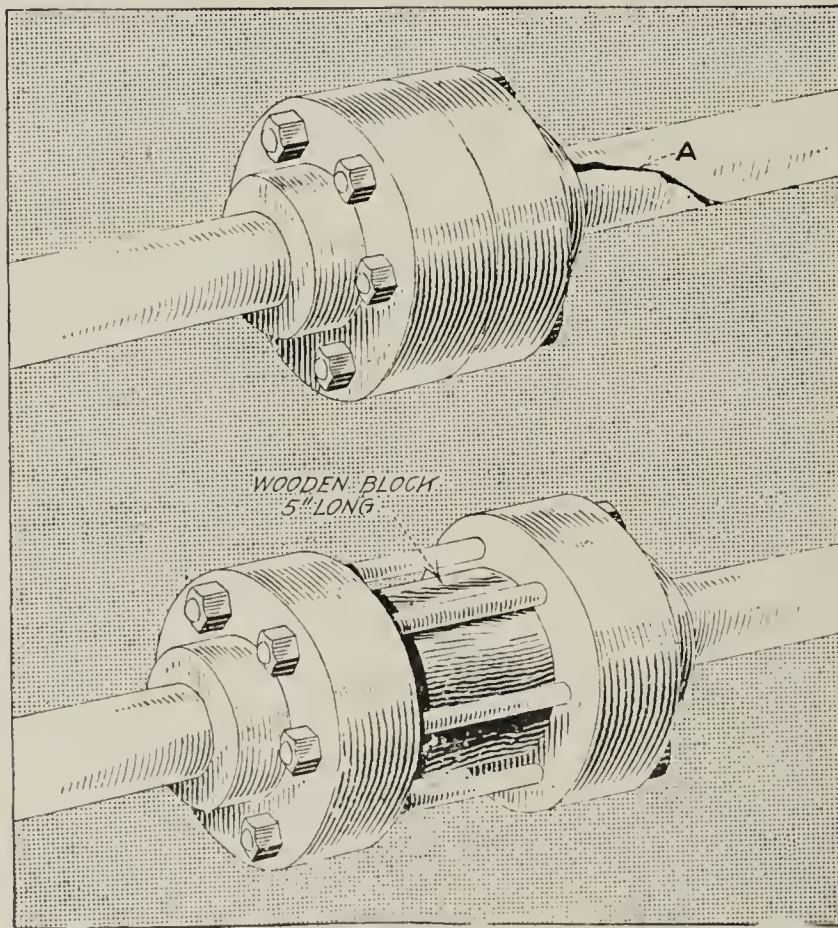
A thin film of scale is not always a bad thing to have as it prevents acid in the water from attacking the metal. It goes without saying that only a very thin coating of scale should be allowed, for if it is allowed to become thick, the efficiency of the boiler is impaired.

Thus, according to "Factory," by avoiding unnecessary scratching of the boiler tubes less trouble due to scale will be found.

✂ ✂ ✂

Emergency Shaft Repair

A shaft broke at a coupling A, and instead of using another coupling and a new piece of shafting, a piece five inches long was cut from the defective end and the new end turned on the remaining length of shafting on which to fit the coupling.



Showing Where the Shaft Cracked and How It Was Repaired.

Next a round piece of tough oak wood, 5 inches long and of a diameter to fit inside of the bolt holes of the coupling was secured, as were also bolts 5 inches longer

than those originally used in the coupling. All was assembled as shown in the lower view.

This job was completed inside of an hour and gave satisfactory results. The wooden block held without turning, the bolts being drawn up tight.—*Power*.

✂ ✂ ✂

How to Prevent Heat Losses in Dryer

Whatever type of artificial dryer is built, it must have a roof and walls. In many cases it has apparently been considered unimportant in regard to the manner of construction except that it be economical in cost of materials. On small plants lumber has been used quite often. Brick has been most popular, while concrete, especially in roof construction, has found a good many installations. For some reason or other, hollow tile has found favor with very few concerns.

The function of the dryer building is of course to confine the heat used for drying until it has done its work. It is a waste of money to transport heat from some source to the dryer (whether it be a waste heat, steam, radiation or any other type of dryer) and then not be able to cash in on all of the work this heat is capable of accomplishing. Yet, this is exactly what happens in a good many dryers where nothing has been done to prevent radiation, to say nothing of the more direct losses of heat thru leakage.

The cry on many plants is for more heat for drying purposes and still no effort is being made to prevent radiation losses and leakage. At ordinary drying temperatures insulation of walls and roof is an extremely simple matter. In fact, no extra cost in construction need be made to build a dryer that will reduce these losses to a minimum. A little more thought on the wall and the roof construction and more attention to the fitting of doors to dryers will be well repaid because of the saving that will result.

Permanently constructed dryers which give trouble due to the outside tunnels being cold can often be improved by plastering the walls of the outside tunnels which it has been found will cut down the radiation losses immensely.

The use of lumber for dryer construction should be condemned. Concrete walls have proved a failure in regard to insulation. Brick walls with air spaces make a good form of construction while hollow tile is the ideal material for building dryer walls.

✂ ✂ ✂

Laying Concrete Foundations in Winter

The earth bottoms of excavations for receiving the foundations upon which engines and machinery are to be placed, should be free from frost. Freezing retards the setting of portland cement concrete and lowers its strength for a short period, but the ultimate strength and hardness are not seriously affected, altho the surface finish, when placed in freezing weather, is likely to scale

off. Setting of the concrete can be hastened and action of frost retarded by warming the materials, or by adding five to ten per cent. of salt to the weight of water used in mixing the concrete.

✻ ✻ ✻

A Few Ideas on Saving Oil

A factory engineer writes relative to saving of oils as follows:

"My practice and advice to all manufacturers is that drip pans should be placed under all the bearings of the different machines and engine bearings. The oil so collected each day should then be put thru an oil filter, after which it is fit to use on line shafts or other heavy bearings. The drip pans should be made out of block tin.

"Where fuel oil is used under steam boilers, or on kilns, for the burning of clay wares, in starting the fires a small vessel, cup shaped, should be used in addition to the baffle tile. One cup should be placed in each fire box, immediately under the end of the oil burner, so as to catch any oil that may drop during the period of getting the baffle tile sufficiently hot to burn the oil and generate the gases. The cups can be made out of clay and are shaped like a basin. When steam is used for atomization these cups are most valuable, as they prevent the fire from going out during the water-smoking of kilns, save oil and unnecessary labor. The cups and baffle are removed when the furnaces become sufficiently hot to burn the oil without waste. I used this system with success."—*Works Engineer*.

✻ ✻ ✻

To Get Timbers Into Position

A wire stretcher, such as is used by farmers in stretching barbed wire, is a convenient tool with which to pull stubborn timbers into position.

To use the stretcher it will be necessary to have on hand a few feet of strong barbed wire. Select that in which the barbs are firmly interwoven with the wire. Fasten one end of the wire to the timber to be straightened, the stretcher to an opposite timber that has been securely braced. Attention to this latter item is a prime essential. The stretcher may now be operated in such a manner as to draw the warped timber into alignment. This accomplished the latter should be securely braced.—*Contract Record*."

✻ ✻ ✻

The Part Grog Plays

Nearly all fire brick contain grog. The presence of grog reduces the apparent plasticity of the clay, reduces the shrinkage in drying, reduces the fire contraction and increases the porosity. A brick containing a large quantity of coarse grog is less likely to crack with sudden temperature changes. The grog, therefore, requires some attention. Grog can be made from previously burned fire clay, ground to the necessary degree of fineness. The term grog also includes the ground fire brick, which, for some reason or other, are unsaleable.

The fire clay used in making grog can be made from the same, or from a higher or lower grade fire clay than is used in making the brick. It is obvious that if the grog has been thoroly shrunk the residual contraction of the brick must be less than if imperfectly shrunk grog is used. It will also be obvious that if a grog be made from a lower grade clay than is used for making the fire brick, the quality of the resulting fire brick must be reduced

in a corresponding manner. Some pay little attention to the grog question; as a matter of fact, the grog is of vital importance, it acts as a kind of skeleton for the fire clay, preventing undue shrinkage and warping. It might be expected that a brick made with once fired grog would be the same as a brick without grog after the two had been fired a number of times in the furnace. This is not the case, because the grog profoundly alters the structure and properties of the brick.

✻ ✻ ✻

Fluxes Required in Fire Brick

In making fire brick the plastic clay mixed with flint clay, calcined clay or grog, is molded into the required shape, dried and then burned. It is interesting as well as instructive to note what changes take place in the burning as regards to the different particles of components of the mass. Some of the particles of the clay are more fusible than others, and some particles which alone are not very fusible readily fuse when heated in contact with other infusible particles. Thus calcium and silica are both very infusible substances, but upon mixing these two together the compound is quite fusible. Hence in a burned brick the net result is a sintered mass; the more refractory particles are cemented together, so to speak, by the fluxing agents. If the clay contained no "fluxing agents" the fired brick would disintegrate as soon as it was subjected to the smallest pressure; its crushing strength would be very small.

It is necessary to purposely add fluxing agents to some refractory materials in order to supply the fluxes necessary to sinter the particles together during the firing. Examples of this are ganister and silica brick. The raw materials may be mixed with lime or clay, and some ganisters naturally contain sufficient clay for this purpose. Fire clays usually contain between one and three per cent. of alkalies, iron oxide, and some lime which act as fluxes and suffice for sintering during the burning.

✻ ✻ ✻

To Shorten Steel Without Saw or Torch

In doing construction work it is sometimes necessary to shorten (cut) an I-beam or other heavy section when no oxyacetylene torch or even a large enough hacksaw frame is at hand.

The job can be done by heating the beam, at the place marked, to a dull red and rubbing a stick of sulphur on it, all the way around, so the metal will absorb the sulphur and become "hot short." Allow the beam to cool, then tap it on the end with a sledge and it will break at the point where the sulphur was applied for the reason that the sulphur has made the metal brittle.—*R. E. Hansen, in "Power."*

✻ ✻ ✻

It is generally conceded that the Ohio River will become a much greater thoroughfare for handling brick, clay and other similar supplies this summer if rates for rail traffic are not reduced. It has recently been brought out strongly that with rail rates increased twenty-five per cent., and no increase in river rates other than those caused by increased overhead, which would figure very little on a barge of brick, cement, tile, lime, etc., that the river companies will be able to handle freights at such low costs that the receiver and shipper can afford to handle the additional drayage at origin or destination, and still make money over rail rates.

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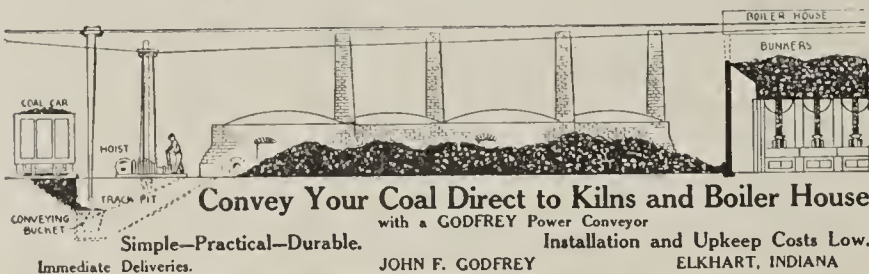
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That Have General Interest
Are Published and
Commented Upon

Says Pulverizer Was Failure

On page 1152 of the December 31, 1918, issue appears an article under the title of "Reducing Costs in Grinding Clay" which gives a description of the ring pulverizer and the service it has given on two large clayworking plants. Great satisfaction was expressed by both of the above users of this machine and the possibilities of this type of crusher seemed very bright. However, one reader of this journal submits the following as a discussion of the pulverizer:

"I wish to reply to an article appearing in your issue of December 31, 1918, entitled 'Reducing Costs in Grinding Clay,' by substituting a pulverizer in place of a dry pan. It is quite possible that pulverizer will work satisfactorily on a hard dry clay, and on the other hand, very poorly on other types of clay. We manufacture sleeves and nozzles and bottom runners, using a clay taken from the stratum above the coal seam out of a coal mine, which is hard and dry but weathers very soft in a few days. Our clay is ground very fine and last year, wishing to increase our capacity, I advised our company to put in a pulverizer on the recommendation of the firm manufacturing this machine. After trying out a sample of our clay in their machine, they guaranteed their machine to grind from five to seven tons per hour of our clay to such fineness that it would pass a one-eighth inch screen, and also that it would take up less space and could be installed in less time than a dry pan. The grate bars of this particular pulverizer had three thirty-secondths inch openings. However, our clay would clog them up in a very short time and we were compelled to stop feeding the machine until it had cleared itself again.

"The clogging caused a pressure on the shaft and cut the babbitt out of the caps of the bearings, and it became necessary to re-babbitt them every two weeks. Finally the shaft sprung so that it had to be replaced by a new one. After this experience we put in grate bars with one-eighth inch openings which resulted in an improvement. By slow feeding we were able to grind ten tons of clay in nine hours. But after six weeks' running the one-eighth inch bars had worn to almost three-eighths and the clay became so coarse that we could not use it.

"As to upkeep, I am satisfied that a set of grate bars will not last longer than six weeks. They are made of manganese steel and cost thirty-five cents a pound. A set of screen plates for a dry pan will last from twelve to eighteen months with our clay and cost less than half of the amount that must be spent for new grate bars.

"I cannot say as to the ring and hammers, but was told by a party who used a pulverizer that the hammers were very expensive to keep up. At any rate, after having given the pulverizer a fair trial, I am convinced that it is a failure on our clay, and at the best, expensive on any clay. Yours truly,

“(Signed) E. T. Graham, Supt.,
“The Tempest Brick Co.”

There is no doubt but that the pulverizer has done very good work on some plants, but it is also very evident that this machine has its limitations. The article in question was written from the data obtained after making an investigation at both of the plants mentioned in the manuscript, and from the accounts given by the superintendents of both concerns, one could not help but become enthusiastic over the possibilities of the pulverizer in the clay industry. Other

plants have also found the machine to be a success but it is obvious that the kind of clay which is to be ground determines whether or not this machine can be used satisfactorily. We believe in being accurate in all our statements concerning the possibilities of any clayworking equipment and if the machine in question has had failures as well as successes, its limitations should be published so that no one will be misled. *Brick and Clay Record* will be glad to publish the experiences, both successful and unsuccessful, of other users of this type of grinder. A thoro discussion should prove of great interest and enlightenment to all of our readers.

IN the WAKE of the NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

E. A. Stewart, of the Stark Brick Co., Canton, Ohio, was a recent business visitor in Columbus.

F. B. Holmes, of F. B. Holmes & Co., Detroit, Mich., was in Columbus about the middle of January calling on manufacturers and dealers.

Isaac H. Tyler, of the R. B. Tyler Co., Louisville, Ky., is back from a trip to Cleveland and eastern points. He was away about ten days.

Lieutenant Eric Ferguson, recently discharged from the United States army, has become identified with the Cambria Clay Products Co., at Firebrick, Ohio.

James T. Howington, of the Coral Ridge (Ky.) Clay Products Co., recently returned from a business trip to Cleveland. He left Louisville on January 21, for a short trip to Pittsburgh and the East.

F. D. Bates, of the Fraser Brick Co., Dallas, Tex., was a recent visitor at Wichita, Kans. Texas will see a new era in building this spring, according to Mr. Bates, who states they expect to see construction work begin the early part of February.

James E. Morrissey, who for some time past has been in the service of the Government in the inspection of structural materials entering into big building projects during the war, has returned to his position as manager of the face brick department of the Cleveland (Ohio) Builders Supply Co.

J. H. Pugh, who was a city salesman for the Hydraulic-Press Brick Co., Cleveland, Ohio, has just returned from Rochester, N. Y., where he was in Government service in the aero-photographic division. He resumes his old position with the company.

C. A. Parker, who for the past ten or twelve years has been with the Louisville (Ky.) Fire Brick Works, holding the position of vice-president, has recently resigned and disposed of his stock in the organization. His successor will be appointed at the annual meeting. C. E. Parker, a son, continues with the fire brick company.

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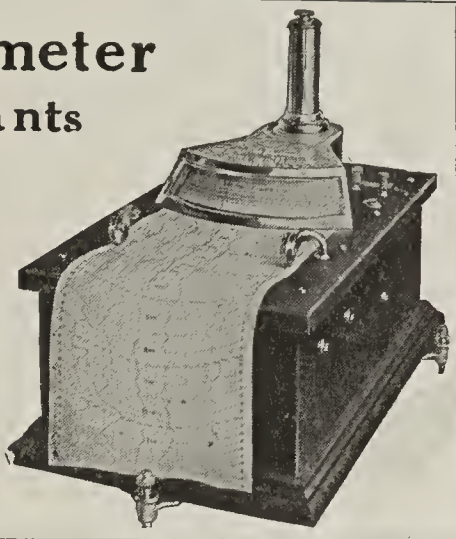


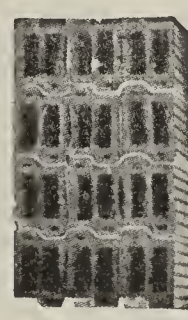
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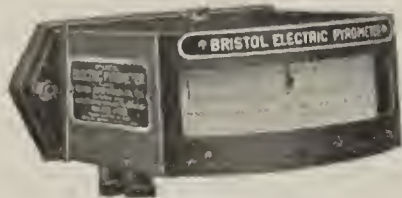
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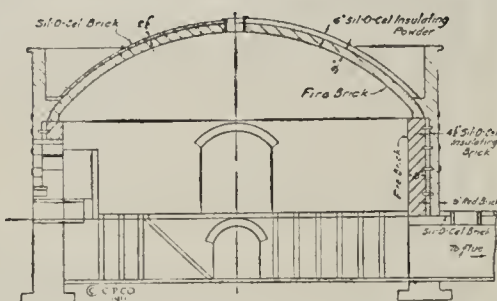
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A28

N. Hermes, formerly superintendent of the Muskogee (Okla.) Vitrified Brick Co., has resigned, to accept a position with the Oklahoma Producing Co., in the oil business. Mr. Hermes had been in the brick business thirty-two years and had a wide experience, having superintended plants in six different states and in Canada.

A. P. McDonald, sales manager of the P. Bannon Pipe Co., Louisville, Ky., is out again after being laid up for several days with one of his periodical attacks of bronchitis. Mr. McDonald has been kept on the jump between Louisville and Camp Knox, Stithon, Ky., for several weeks, the company having some government contract at that point.

David Lehman, who has been connected with the Iron-clay Brick Co., of Columbus, Ohio, for fifteen years, in the capacity of salesman and office manager, has been made assistant general manager of the company at the recent annual meeting. W. D. Brickell was elected president, and J. M. Adams, secretary and general manager. The company operates a large plant at Shawnee, Ohio, and several other plants thruout Ohio.

Alabama

Plans are underway for the enlarging of the plant of the Harbison-Walker Refractories Co., at Fairfield, Ala., to the extent of \$1,000,000. It is reported that the new plant will be built and equipped in the most modern methods and an additional 500 employes will be added to the present working force of 500.

California

The amount of \$10,000 is to be expended in Modesto, Cal., for a sanitary sewer extension, along with other municipal improvements of a similar character.

A one-story brick school house, with brick walls and clay tile roofing will be erected in Seventh Street, Los Angeles, Cal., in the near future. The structure is to have twelve class rooms, and is estimated to cost \$90,000.

The City Trustees of Martinez, Cal., have decided to go ahead with construction of the enlarged municipal water system, and bids have already been opened for the pumping station and reservoir construction. A former contract for the distributing system is still in force. The estimate on the entire system is \$170,000.

The regular annual meeting of the stockholders of the Pacific Coast Pottery & Terra Cotta Co. will be held at the company's offices, 1009 South Fifth Street, San Jose, Cal., on the 23th of January, for the purpose of electing a board of directors and the transaction of any other necessary business.

Along with other lines of building material, the clay products manufacturers of the Pacific Coast are anxiously watching the general market for any substantial drop in prices, or indications of such. The architects' offices, it is claimed, are full of prospective work awaiting a change that will make it possible for the investor to give the word to go ahead with construction. The clay products interests realize that people will not build under present price conditions, especially as the banks are not loaning any appreciable amounts and have given the public to understand that they do not intend doing so until after the next Liberty Loan. Some work is being figured upon, however, regardless of high prices, and a general survey of conditions is optimistic enough to make the brick manufacturer feel that building will gradually be

resumed before many months are past. A start toward normal production is expected about the beginning of March, for it is a certainty that conditions do not warrant continued inactivity.

Colorado

The Longmont (Col.) Brick & Tile Co. held its annual meeting on January 6, at which the 1918 officers were re-elected for the coming year. In spite of the ban on building materials last year, the sales of the company reached \$43,000, a gain of \$1,000 over the previous year.

Connecticut

The Hartford (Conn.) Faience Co., has recently placed contracts for an addition to the factory building on Bartholomew Street.

Robert O. Clark, a brick manufacturer of Berlin, Conn., has purchased the so-called "Saddle Hill" schoolhouse at Middletown and plans to remove it to the vicinity of his brickyard to be fitted up as a dwelling house for employes.

Illinois

It has been announced that the plant of the Poston Brick Co., Springfield, Ill. is making arrangements to start operations again about the middle of February, Emmett V. Poston having returned to Springfield.

Indiana

The Medora (Ind.) Brick Works recently had a nice contract for second paving blocks which were used in erecting several grain tanks at the new plant of the Wathen Milling Co., at the R. E. Wathen Distilling Property. About 800,000 of these brick were purchased for this work.

Fire of undetermined origin did considerable damage in the drying room and power plant of the United States Encaustic Tile Co., Indianapolis, Ind., on January 10, the loss, which approximates \$30,000, being mostly in machinery and manufactured clay. W. F. Landers, secretary-treasurer of the company stated that the new machinery just installed at the plant, will be a total loss.

Kentucky

From Torchlight, Ky., comes a report to the effect that C. E. Stafford and others are contemplating the erection of a plant to manufacture fire brick and paving brick. Inquiries have been placed for necessary machinery.

A. P. McDonald, of the P. Bannon Pipe Co., Louisville, Ky., reports that a few inquiries are coming in for hollow tile and that the company has enough business on hand to keep both plants going but is not rushed by any means.

The Southern Brick & Tile Co., Louisville, Ky., is closed down for repairs at the present time, but expects to start operations again shortly. The brick demand has been quiet, but there is a fairly active demand for drain tile. H. H. Bishop, son of T. Bishop, head of the concern, is back from Stithton, Ky., where he was handling government work for about three months at Camp Knox.

The plant of the Coral Ridge Clay Products Co., South of Louisville, Ky., is down for the present, a fair stock being on hand and very little business coming in. Man-



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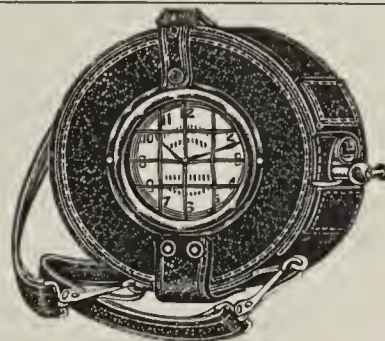
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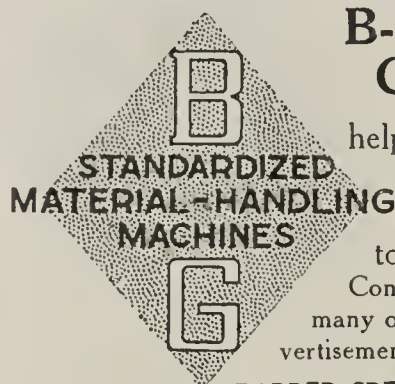
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ager James Howington believes that labor and coal will come down somewhat, and that it will be possible to produce brick at a slightly lower figure during the year, but he believes the market will hold firmly for some little time to come, or until stocks on hand are consumed at least.

Business is a little quiet even in the fire brick line according to J. H. Bell, of the Louisville (Ky.) Fire Brick Works, who stated that practically no new business was coming in, but that the company was managing to keep busy on orders that had been sidetracked during the latter part of 1918 for war orders. Mr. Bell stated that while coal prices were off somewhat, and labor was reported as being slightly easier and more plentiful, freight rates had a considerable bearing on prices, and he couldn't see much outlook for lower prices for some time to come.

January has been a quiet month with the Louisville, Ky. trade, but January is generally a quiet month and the trade is looking forward with optimism and a fair volume of confidence to seeing business pick up in the spring. There is a general waiting attitude being played by the architects, builders and owners of property. Every one is waiting to see prices drop. The brick man who has stock on hand, which was manufactured on high priced labor and probably at a considerable increase due to cost of getting material out, cannot see any reduction in values on this stock. Prices may be somewhat weaker in the spring, if coal and labor declines as much as it threatens to at this time.

According to a statement made by Frank Morrison, secretary of the American Federation of Labor, before the House Immigration Committee, at Washington, on January 16, in arguing in favor of barring immigration for a period of four years, Louisville, Ky., at the present time has 2,900 men out of work. Louisville manufacturers and employers are of the opinion that the figures as given are exaggerated in spite of the fact that it is a dull season in many lines, and especially in the building trades. Many concerns have been busy replacing girls and inefficient male help in plants of various kinds, with the result that floaters as usual are looking for work. Common labor four months ago was scarce at \$3 a day, but some common labor is now glad to work for \$2.50 per day, and is making a round of industrial plants in search of work.

An interesting smoke stack is one that has just been completed at the new \$2,000,000 plant of the Standard Oil Co. of Kentucky. This stack is of glazed blocks or tile similar to that used in erecting silos. The stack is at the sulphuric acid recovery plant, and was built of this material to resist the action of the acid. Five other large stacks on the premises are of concrete. This is a stack of fairly good size and took considerable material. The oil plant has a capacity of 2,000 barrels of gasoline and finished products daily. In finishing and refining a considerable amount of sulphuric acid is used, and handled in lead lined containers. While the plant is primarily of steel and concrete construction nearly five million common and fire brick were used around the retorts, in brick-ing up, etc. The common and fire brick were furnished by the P. Bannon Pipe Co., of Louisville.

One of the most complete private sewerage systems that has been installed in Kentucky in several years is that installed at the new plant of the Standard Oil Co. of Kentucky, just south of Louisville. There is a total

1,700 feet of thirty-six inch sewer pipe in the main system, and a tremendous quantity of smaller pipe. All water from operating sections of the 360-acre plant, including drainage from around the tank field, boiler house, mills, pumps, offal, and in fact everything leads to a concrete baffled box, of fourteen compartments. Here the sewerage is baffled, and a surprisingly large amount of oil is pumped from the surface of the water. In the last compartment the water is clear, whereas the first compartments appear to contain pure crude oil. From the last compartment the water goes to the river, one hundred yards distant, by gravity. Under the laws no petroleum is permitted to go into running streams, due to danger of fires, and the fact that it kills fish. However, the Standard Oil Company is just as particular about saving the oil as it is about complying with the law, with the result that no oil whatever goes into the river.

Maryland

The North East (Md.) Fire Brick Co. has recently distributed a large size calendar which is very beautiful, the picture thereon, entitled: "The Path of Dreams" being reproduced from the original painting by C. Warde Traver.

Massachusetts

The city of Lynn, Mass., has laid out a program of sewer construction and street paving for the year 1919, calling for an expenditure of \$302,000. Of this \$176,000 is to be spent for streets and \$126,000 for sewers.

Missouri

Efficiency of negro laborers at the Fulton (Mo.) Fire Brick Co.'s plant has increased from 15 to 85 per cent. in the last few months as a result of public meetings which have been held for the purpose of increasing the efficiency of the day laborer, according to C. O. McNamee, manager of the company.

McEwing-Thomas Clay Products Co., St. Louis, Mo., is preparing for a big boom in building construction this spring. This company reports that business was picking up locally until the recent zero weather came along and upset the plans of contractors. A large smokestack at the company's St. Elmo, Ill., plant was blown down in a recent windstorm.

Roscoe B. Johnson, president of the Grafton Clay Products Co., St. Louis, Mo., announces that his concern has just finished installing \$18,000 worth of new machinery at the Grafton, Ill. plant. The new equipment consists of an electric light plant, compressed air drills, pulverizing and crusher machinery and other essentials. The concern is working a rift proposition on an eighty-acre tract. The deposit is over 90 feet thick and contains practically an unlimited deposit of blue shale, or "Denver mud" as some people call it. The clay is much harder than Missouri clay. The company shipped its first carload of shale recently and received flattering reports as to the quality of same.

New Jersey

The plant of the Crescent Brick Co., at Eatontown, N. J., has been sold to New York parties. The names of the new owners and the price have not as yet been disclosed. The plant is to be used for the manufacture of high-grade fire brick, the chief product heretofore being face brick.

There is no change in brick quotations at Newark, N. J., prices are firm at \$19.50 to \$20 per thousand for good hard

Perforated Steel Screens Of Every Description

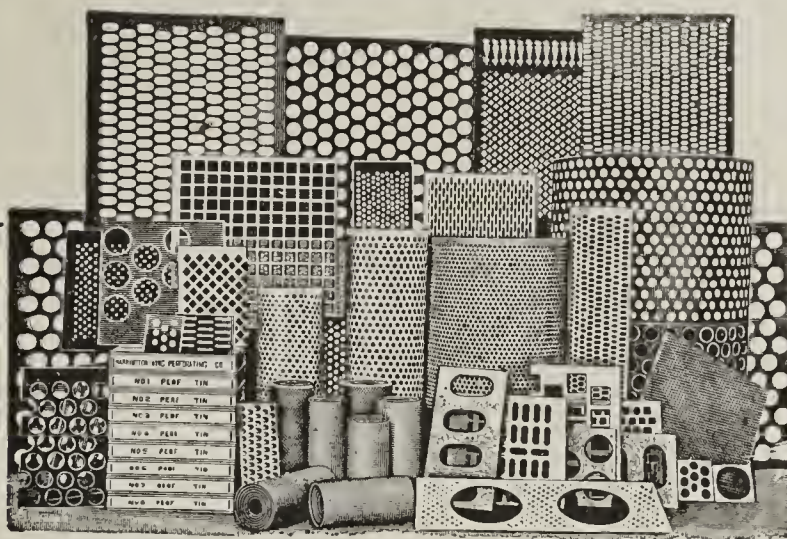
**For Screening Clay, Shale, Sand,
Gravel, Stone and Cement**

**No Other Screens Will Give You Equal Capacity,
Durability and Satisfaction**

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635 N. Union Ave., Chicago, Ill.

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Speed & No. 1 Ware

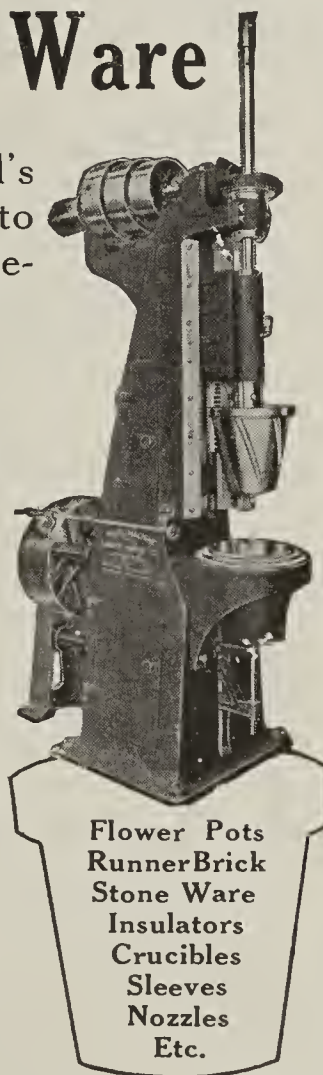
The popularity of Baird's Pottery Machines is due to their speed, simplicity of design, plus No. 1 ware.

The mould or head-piece of these machines always remains free from adhering clay. With the help of an ordinary workman, one of these machines will speed up production on easy selling ware, and increase your profits.

Send us a sample of your clay at once, and learn the possibilities of these machines. You will be surprised with the results. Write to-day to

Baird Machine & Mfg. Co.

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**Flower Pots
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For Better Brick Drying in 1919

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About the FLEXIBLE Heating System of

The Standard Brick Drier

Or if you're not going to attend
the Convention, write us for
catalog and full information.

The Standard Dry Kiln Co.
1540 McCarty St., Indianapolis, Ind.



You can get a higher price for your brick
if you guarantee it will be

Scum-Proof

And you can do this with perfect safety by
using

R. H. Precipitated Carbonate of Barytes

It neutralizes the salt in your clay so that
it cannot appear on the surface of the brick
after it gets wet.

But don't accept a substitute—insist on R. H.
—the dependable brand.

Write for circular and prices.

The Roessler & Hasslacher Chemical Company

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Chicago, Ill.
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St. Louis, Mo.
Kansas City, Mo.
San Francisco, Cal.

Philadelphia, Pa.
Boston, Mass.
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We carry a complete line of high grade chemicals
for the clay industry

common. Stocks hold up well, being entirely sufficient for all available demands. Brick for this district is for the most part from the Hackensack and Raritan River sections, as well as from the Hudson River points in New York, and with the large supply now current in the wholesale markets, particularly from the last noted section, it is quite remarkable that prices show no tendency to decline. The call for face and ornamental brick is light. Fire brick of good grade is selling at about \$65, and under fair demand.

In a statement issued by President Demarest, of Rutgers College, New Brunswick, N. J., it is shown that about nine-tenths of the men from the school in officers' training camps were commissioned. In connection with the college, it is pointed out that a new building for physics is needed, as well as a new Y. M. C. A. building and fine arts school. It is also planned to enlarge the Ralph Voorhees Library and the engineering and chemistry buildings. An appropriation of \$100,000 is available for part of this work, having been donated by the late Mrs Russell Sage.

There is little of more than ordinary interest in the Hackensack, N. J., brick circles. The coming of the new year has served to assist the development of plans for the coming spring production, and it seems possible that the activities when manufacturing is again under way will reach a high plane. In the meantime there is a general "cleaning up" of properties and putting things in order for the season to come. Available stocks are low and each fortnight brings evidence that by the time production is again under way there will be little if any of last season's run on hand.

The building situation at Paterson, Passaic and surrounding districts remains the same. There is no evidence of the much-to-be-desired construction activities and the general concensus of opinion of those prominent in building circles in this vicinity is that no substantial movement will be seen before spring, even tho the winter season continues open and decidedly mild. Brick is in fair demand for minor building work, with prices ranging around \$17 and \$18 per thousand for good grade material. There is not much call for face brick, as might readily be imagined, and it is understood that the demand for fire brick, with prevailing price around \$75 and \$80, is slackening.

There is little doing at the different brick yards at Trenton, N. J., at the present time. Practically all of the plants are closed down, and all burning of stacks passed. A canvass of a number of the local yards shows stocks as being at a minimum, but it is maintained that such brick as are on hand are all that are required under present conditions. Prices for good hard common brick range from \$14 to \$17 a thousand, while rough common are bringing in the neighborhood of \$12, with salmon brick a few dollars lower. Many of the yards are brushing up in expectation of the spring run, and it is anticipated that a few months hence will see a number of the plants operating at good capacity.

The building situation at Trenton, N. J., and vicinity remains unchanged. While a number of interesting municipal and other projects are known to be in progress in architects' offices, up to the present writing there is no actual evidence of real activity, or when the work in question will be placed under way. The building department has compiled a report showing the extent of operations during the past ten months. During this time 358

permits were granted with total estimated cost of \$522,615, as against 500 permits in the same period in the preceding year, with aggregate cost of \$1,219,258. The permits in 1918 covered a total of 119 brick structures as against 186 in the year previous; only one reinforced concrete building was erected in the city in 1918, and two in the year before. The demand for brick is light and available stocks sufficient for all current calls.

The Trent Brick Co., Trenton, N. J., is formulating plans for early spring production. The company has recently placed orders for new machinery for the manufacture of "coal spuds," a by-product explained in full in the November 5, 1918, issue of *Brick and Clay Record*. The company has clay properties in the vicinity of the yard and these will again be worked after a shut-down of some few months. The regular plant production covers a high-grade common brick, and the quantity on hand from the former run is at low ebb. The average run at the plant is close to 200,000 brick per kiln per season, and under normal conditions 13 kilns are operated. A. W. Goulding, secretary of the company, has been a visitor to the Shamokin district of Pennsylvania for some weeks past.


There is little change in the building situation at Newark, N. J., and vicinity. The outlook is good, brick and building material interests are hopeful, architects and engineers report that plans are under way for a number of important enterprises, but there is no actual evidence of desired activities. The records of the building department show minimum construction work even for this period of the year, with total volume of estimated costs very low. The number of permits granted by the department, however, are increasing in volume from week to week, and are greater than for this same period a year ago, indicating that the trend of sentiment is towards a resumption of building. This work for the most part covers improvements and alterations in industrial plants and dwellings, with a number of factory extensions caused by needed expansion.

Considering realty interests as a whole, the new year is bringing about renewed and "live" interest in Newark, N. J., and vicinity; meetings held by the Newark Real Estate Board are decidedly inspiring, teeming with enthusiasm and optimism. The Board of Trade has given its formal approval for an extension of the Real Estate Board's plans for the "Own Your Own Home" campaign which is to be advanced in all sections of the community. It is anticipated that this campaign when once under way will not only bring about the direct result desired, but will tend towards a large amount of building work, particularly in the matter of homes and dwellings. The housing facilities are now far from adequate, and while it was expected that the close of the war would relieve the situation, owing to the fact of the closing down of munition plants and the departure from the city of many workmen and their families, this has not proved to be the case. On the contrary, the demand is heavier than ever, and there is hardly an available apartment or dwelling at the present time at prices to suit people of this type.

The value of brick for permanent construction is well illustrated in connection with the building plans for extensions to the Essex Mountain Sanatorium, authorized by the Board of Freeholders, Newark, N. J. Plans for semi-permanent construction as recently prepared have been discarded, to be replaced with new plans calling for brick structures, with tile roofs and concrete floors. That

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Each strand of Waterbury Armored Rope is wound with convex-edged flat steel wire which forms a protective armor and relieves the tensile strength wires of all abrasive wear, retaining intact the strength of the rope throughout the entire wear of the flat wires.

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KEYSTONE



Have you a shallow pit—
from one to six feet deep?
Do you strip your shale pit?

The Keystone Excavator

10-Ton Traction

means a lot to the man who is operating under these conditions. Equipped with three different buckets, it is adaptable to a wonderful variety of work.

The flat bottom SKIMMER SCOOP (shown above) is designed expressly for shallow cutting. Mounted on a sixteen-foot boom, it has a horizontal crowding movement of eleven feet—hence can be used on cuts 6 inches in depth, loading 200 to 500 cubic yards per day and replacing 25 to 50 hand shovels. Powerful and strong, it will dig shale or tough fire clay without blasting—anything but solid rock.

Operating in soft material, against a high bank, the half-yard DIPPER SCOOP is used.

For excavating below grade the DRAG DITCHING SCOOP is put on.

Its light weight (10 tons), long wheel base and large tread wheels make it an ideal traction, and its low cost makes it available to the plant of moderate capacity.

May we send catalog and list of Brick Makers who are using Keystone Excavators?

KEYSTONE DRILLER CO., Beaver Falls, Pa.
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STEAM SHOVELS



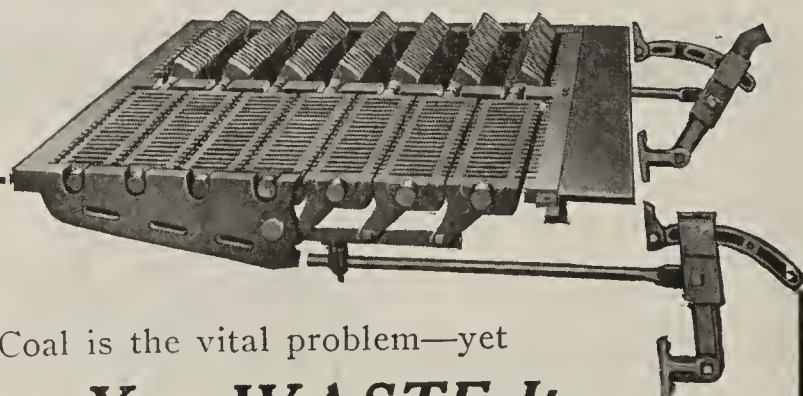
Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO



Coal is the vital problem—yet

You WASTE It

Stop the waste now, by installing the

CANTON
ROCKING and DUMPING GRATE

It SAVES enough in most cases to pay for itself in the first few months' use.

It SAVES because there is no necessity of having the doors open except when charging fuel.

It SAVES because there is no waste or loss of heat when stoking.

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It SAVES because it keeps the steam pressure uniform.

It SAVES because that is the business for which it exists.

But—it can SAVE FOR YOU only if it is in use under YOUR boilers.

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the building committee of the board is exercising good judgment in this change is certain, particularly when it is stated that the buildings are to be used as hospital structures and pavilions for the sick. Fire hazards might well be considered in matters of this kind, for catastrophes of such nature in this character of buildings, simply thrown together of inflammable materials, are all too common. It is understood that the semi-permanent structures were planned owing to the Government's restrictions on building. The initial bond issue to provide for this work was \$119,000 and it is now proposed to increase this to an amount of about \$150,000 or \$200,000. It is expected to complete the plans by March 1, and award the contract so that construction can be inaugurated in April. Jordan Green, Newark, is the architect.

Clay, tile and associated interests in the Raritan River section were well represented at a meeting held at Perth Amboy, N. J., January 13, under the auspices of the Community Labor Board of this district to devise ways and means for the employment of demobilized and discharged soldiers and sailors now returning to the city. The general consensus of opinion at the gathering indicated that there would be but little difficulty in finding employment for these men, many of them, who left local plants to join the colors, finding their former positions awaiting their return. On this latter point those present seemed to be of one accord, and many cited exact references to the berths that would be available. Among the speakers were Adrian Lyon, of the Community Labor Board; J. D. Hartshorn, American Agricultural Chemical Co., Carteret; T. D. Waring, chairman, Perth Amboy chapter of the American Red Cross; Mr. Zeltman, Central Railroad of New Jersey, and A. Clayton Clark, superintendent, the Raritan Copper Works. Those present representing the clay and affiliated industries were: August Staudt, Perth Amboy Tile Works, and past president of the New Jersey Clay Workers' Association; M. M. McHose, L. H. McHose, Inc.; Mr. Stevens, American Clay Products Co., South River; J. Ross Valentine, M. D. Valentine & Bro. Co., Woodbridge; Jean DuBois, Roessler & Hasslacher Chemical Co., Perth Amboy; S. H. Schmidt, Didier-March Co., Perth Amboy; Victor W. Main, National Fire Proofing Co., Perth Amboy; Mr. Jacquet, American Enamel Brick & Tile Co., South River, and Mr. Moroso, Alignum Fireproofing Products Co., Sayreville.

New York

The Federal Terra Cotta Co., New York, N. Y., will hold its annual meeting for the election of directors and other business at its offices, 101 Park Avenue, on January 28. A similar meeting will be held on January 30 by the Chestnut Ridge White Brick Co., at its offices at 7 West Forty-fifth Street.

A visit to the offices of the National Terra Cotta Society, New York, shows that while things are quiet at the present time, the outlook, at least, is encouraging. Terra cotta interests have felt, with the other clay working lines, the affect of the enormous drop in building thruout the country during the year past, and particularly so when it is considered how largely this material is used in connection with steel frame buildings, which have been in great minority. The attitude is one of particular hopefulness for the spring building season.

That clay and affiliated industries are proceeding along

even lines, without increasing or diminishing present production, is shown by current statements of the United States Employment Bureau at Syracuse, N. Y., from week to week. It is set forth that these lines are giving employment to about 735 persons, and that this number prevails almost within fluctuation. Other industries such as iron and metals, leather, etc., show a decided change here and there in the force of workmen maintained, some plants increasing the number of hands and others diminishing, as conditions might necessitate.

Hudson River brick yards have suspended further shipments to the New York market for the season. Even tho the river is still open and it is possible to send cargoes thru, it is evidently deemed inadvisable owing to the large supply on hand at the present time. Furthermore, with a real season of winter weather and storm, there would be the expense of covering at the dock. For the past two weeks no shipments have arrived. It is understood that a number of plants in this district are still producing, as well as burning stacks in anticipation of the spring and summer demand.

The New York brick market presents little of interest, with the fortnight just passed particularly quiet. The stock of brick has increased to a large amount owing to the open winter and the possibility of continued shipments from Hudson River yards. In this connection it is stated in some quarters that the available supply is now well over 8,000,000 or 9,000,000 brick, exclusive of the stocks on hand in the yards of the material dealers thruout the city. This supply indicates the faith that producers have for a strong revival of building work in the spring, and even with the demands as now anticipated it will take time to move this quantity. Prices continue at \$15 a thousand for good hard common at the dock, making a price of about \$18 delivered on the job. There is still no quotations on brick from the Raritan River section as the market has been void of the production from this point for some time past. The demand for face brick continues light, with prices ranging from \$25 to about \$37 a thousand for good grade material delivered to the site. Prices hold firm at these figures and there is no tendency to drop.

The building situation in New York continues the same without any important or greatly encouraging features. The atmosphere is one of hesitancy—a waiting for things to become settled, and naturally, for building material prices to recede from present levels. On this latter point there does not seem to be any indication of a drop. As an idea in the great decline in building in the greater city brought about by the war and the Government restrictions on construction, it is of interest to note that only 182 new buildings were erected in New York during 1918, with total estimated cost of \$8,507,000, as against 321 structures in 1917, involving \$29,068,525, a decrease in buildings of 139 and in money value of \$20,561,525. A striking decline is shown in figures for the Bronx section; here the new buildings in 1918 aggregated 206, with estimated cost of \$3,991,900, as against 640 structures in the year preceding involving \$8,545,475. Among the new building projects soon to be placed under way is a large office structure for the Cunard Steamship Co., Ltd., at 25 Broadway. The site was acquired about one year ago, and plans are now being prepared by Benjamin W. Morris, 101 Park Avenue.

Ohio

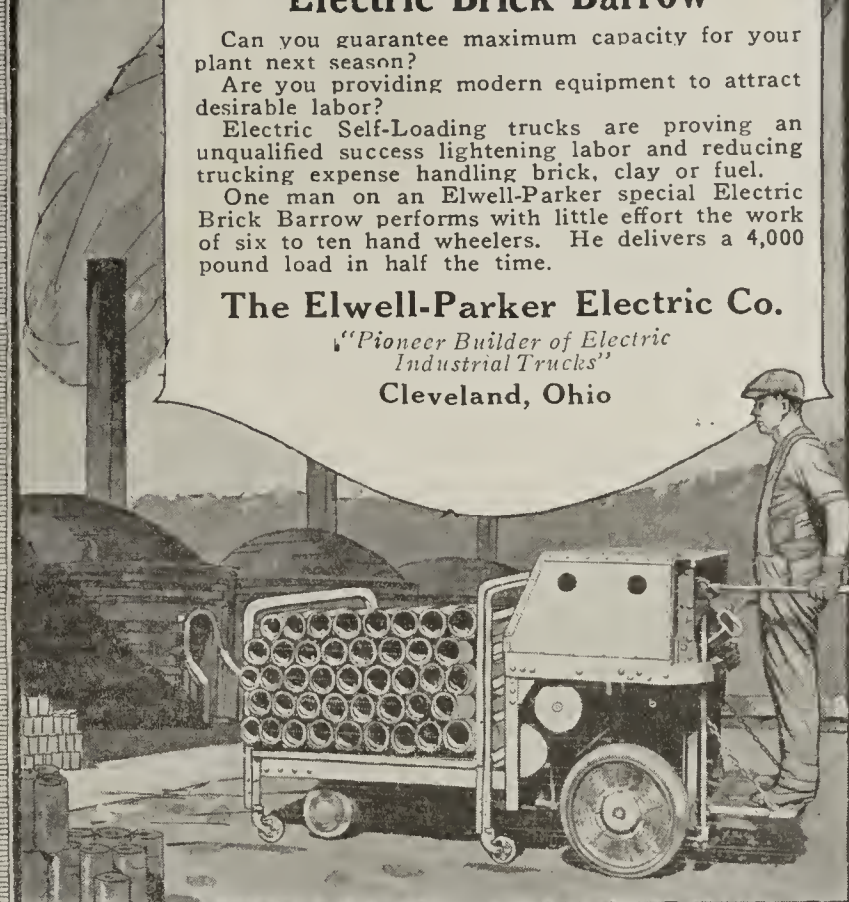
Fred Becker and Frank Deters, of Kalida, Ohio, have purchased the Glandorf Tile Yards, at Ottawa, Ohio.

SELF LOADING ELECTRIC INDUSTRIAL TRUCKS

Electric Brick Barrow

Can you guarantee maximum capacity for your plant next season?
Are you providing modern equipment to attract desirable labor?
Electric Self-Loading trucks are proving an unqualified success lightening labor and reducing trucking expense handling brick, clay or fuel.
One man on an Elwell-Parker special Electric Brick Barrow performs with little effort the work of six to ten hand wheelers. He delivers a 4,000 pound load in half the time.

The Elwell-Parker Electric Co.
"Pioneer Builder of Electric Industrial Trucks"
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save

that 25 cents

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It will buy

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*At any Post office, bank or
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Increase Sales with Good Looking Ware

Other industries have called in the aid of science to improve the quality and the appearance of their products.

ROLLIN'S BARIUM CARBONATE improves the appearance of clay products by eliminating scum, thereby giving you a more attractive and easier selling piece of ware.

Add ROLLIN'S at the pug mill, or in the dry pan, and it will render insoluble and harmless the scum-producing sulphates that are in your clay.

In sewer pipe clays it makes the salt glaze stick.

Well known concerns, such as U. S. Roofing Tile Co., Coral Ridge Clay Products Co., Sapulpa Pressed Brick Co., Coffeyville Vitrified Brick & Tile Co., and many others, are using it.

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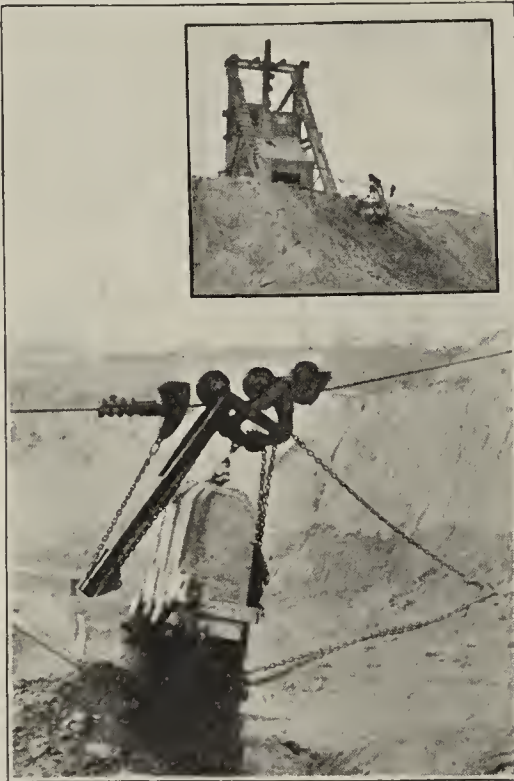
is a one-man machine which connects the clay pit with the plant and digs, conveys and dumps the clay in one continuous operation. It does away with the shoveling gang and the cars, locomotive, track, etc., that are required when other kinds of excavating machines are used.

Here's Example of Economy of Sauerman Outfit in Clay Plant:

The problem confronting one large Ohio brick manufacturer was to find the most economical means of getting the clay from a large hill and delivering to the plant situated in the valley. The method first tried out involved the use of a steam shovel with cars and horses to haul the clay to the plant and required the employment of six to eight men.

The Sauerman outfit which has taken the place of the shovel and cars, digs the clay from the hill and conveys it to a hopper from which a car runs up and down a short incline to the plant. Two men constitute the entire operating force.

The small picture shows the bucket digging a load near the top of the hill. The bucket loads in a few seconds, then the drum carrying the load cable is released by the operator of the double-drum friction hoist on the hill-top and the loaded bucket returns down the track cable by gravity to the hopper 500 ft. away in the valley. The large view shows the quick, sure, automatic dumping action of the bucket.



This low-end dump type of installation has proved to be a perfect solution of this clay-digging problem. Our other type of outfit, dumping at high end of cableway, is equally successful where the clay has to be delivered to a point higher than the place of digging. What is your problem?

Catalog free on request.

SAUERMAN BROS.

316 S. Dearborn St., Chicago

Mfrs. Cableway Excavators, Power Scrapers and Cableway Accessories

A large delegation of Columbus, Ohio, builders and material men will attend the annual convention of the National Association of Builders' Exchanges which is scheduled to be held in Milwaukee, February 25 to 27.

The Toledo (Ohio) Cordery Brick Co. has been incorporated with a capital of \$50,000 to manufacture brick. The incorporators are: Frank Cordery, H. A. Kesler, H. W. Frazer, P. R. Taylor and Alonzo C. Ruihley.

A meeting of the executive committee of the Ohio Paving Brick Manufacturers' Association was held in Columbus, January 24, to take up matters pertaining to the road and street building program for the spring season.

Bids have been asked for the erection of a \$40,000 school building at Rushville, Ohio. The plans and specifications had been prepared a year ago, but the work was held up by the war building board. The work will be pushed in the spring.

The Superior Brick Co., of Cleveland, Ohio, has been chartered with a capital of \$10,000 to manufacture and deal in brick and clay products. The incorporators are: Charles W. Davis, James A. Camron, Charles Riertz, John M. Neeson and R. D. Campfield.

J. C. McMasters has been elected the new president of the Columbus Builders' and Traders' Exchange at the annual meeting held recently. Lloyd E. Morris was elected first vice-president and H. D. Foltz, J. A. Stoner and Aaron Benningnus, members of the board of directors. Rex C. Rogers will continue as secretary.

The annual meeting of the stockholders of the Alliance (Ohio) Brick Co. was held on January 14, at which time the board of directors was re-elected. The board of directors organized by the re-election of the officers of the company. The business of the past year was very satisfactory and prosperous.

The board of directors of the McArthur (Ohio) Brick Co. met on January 6 and elected the following officers for the ensuing year: H. S. Hamilton, president; W. C. Fischer, vice-president; L. W. Sprague, manager; O. F. Pilcher, secretary; A. Will, Jr., treasurer, and O. E. Vollenweider, attorney.

Stockholders of the American Clay Products Co., recently incorporated at Zanesville, Ohio, organized on January 9 by electing the following officers: President, F. M. Ransbottom, Roseville; first vice-president, A. E. Hull, Zanesville; second vice-president, C. L. Adcock, Logan; secretary, Nelson McCoy, Zanesville; treasurer, Floyd F. Hull, Crooksville; assistant treasurer, John G. Burley, Crooksville.

The Ohio Highway Commission will open bids January 31 for the construction of 37.52 miles of improved roads in various counties in the state. The specifications call for 11.92 miles of monolithic brick construction in Ash-tabula County and an additional five miles of either brick or concrete construction in the same county. A stretch of 4.08 miles of brick construction will be built in Ashland County. Brick construction is also provided for contracts in Columbiana and Knox Counties.

The Ohio State Prison Building Commission has asked for an appropriation of \$350,000 to continue the work of building the new state's prison near London, Ohio. There is an unexpended balance in the fund of approximately \$350,000 which will make about \$700,000 to be expended during the coming two years. The plan is to erect the administrative building and at least one of the cell blocks. It is estimated that the erection of the prison will cost in excess of \$1,000,000.

It is reported that Toledo (Ohio) dealers and manufacturers are announcing reductions of from 10 to 25 per cent. in building materials. Brick have dropped \$1 a thousand, or about 10 per cent. since the first of the year and hollow tile 10 per cent. Toledo contractors and real estate men now believe that construction of both houses and factories, which have been practically at a standstill for nearly two years, will be resumed. It is expected that operations in several local brick yards will be started early in February.

Central Ohio brick manufacturers and dealers report a larger number of inquiries, principally for face brick. This fact is taken as an indication of more interest in building operations and the trade is correspondingly optimistic. The structures are school buildings, apartments, dwellings and small business blocks. Quite a few projects which were postponed because of the war are now being revived and the prospects are getting better as the spring building season approaches. Brick men generally believe that there will be quite a demand for brick and other clay products in a few months at least.

Many topics were discussed at the second annual Ohio Road Congress which was held in Columbus, Ohio, the week ending January 18. The congress was the result of efforts on the part of the Ohio Good Roads Federation and many allied organizations cooperated in its deliberations. One of the features was an address by Fourth Assistant Postmaster General James I. Blakeslee, who asked that the sum of \$30,000,000,000 be spent in the United States for road improvement in the coming two years. A resolution was adopted urging the state authorities to cooperate with the federal authorities in securing a better road improvement program.

The Metropolitan Paving Brick Co.'s stockholders met in the company's office in Canton, Ohio, on January 8 and elected the following officers for the ensuing year: H. S. Renkert, president; Charles W. Keplinger, chairman of board of directors; O. W. Renkert, vice-president and manager; J. G. Barbour, secretary and treasurer; C. C. Blair, manager of sales; R. B. Keplinger, assistant to the manager. Reports read at the meeting showed that tho the company had lost heavily in contracts during the war on account of Government restrictions, the prospects appear reassuring, for with the end of the war, paving and street repairs will be considered by many cities which suffered bad roads and streets as a result of the restrictions.

It is planned to manufacture at least one-fifth of all of the paving brick used for road improvement by the Ohio Highway Commission after this year. To that end the Ohio Board of Administration has requested an appropriation from the Ohio General Assembly of \$100,000 to purchase the plant at Junction City, Ohio, and to make needed improvement. The Junction City plant has been operated with prisoners from the Ohio Penitentiary under a lease with the owners. If the appropriation is made the plant will be enlarged to a capacity of 100,000 daily. This would require approximately 150 prisoners to keep going. H. S. Riddle, of the Ohio Board of Administration said: "There is no industry in view that will repay the expenditure of money so well and so quickly as the manufacture of brick, for it is an industry that belongs to all classes of people and from which all are benefited."

What is claimed to be the largest brick contract ever placed in the history of the brick business in this country, is about to be placed by the promoters of the Cleveland Union Passenger and Freight Terminal, at Clevel-

GANDY-all through the year



Right with you at the switch-over from wartime to peace-time production!

"Whatever the wind or weather" **GANDY**—the original stitched cotton duck belt—is on the job ready to deliver full power to every machine in your plant.

You can depend upon **GANDY'S** inherent strength and tenacity to get

all the pull from the pulley—all through the year

And now, at the beginning of a new year and a new era, when you "take stock" of your transmission and conveyor equipment and find replacements and additions necessary, remember that our Engineering Department stands ready to assist you with competent, advisory service.

It is the aim of this organization not merely to supply you with belting, but belting plus engineering service that will give you 100 per cent. results.

Yours for a prosperous New Year
"On-the-Job" **GANDY**

The Gandy Belting Co.
732 W. Pratt Street BALTIMORE, MD.
New York Branch: 36 Warren Street



Look for the Green Edge and **GANDY** Trademark

"The S S S Special" Automatic Soft Mud Brick Machine



The "S S S Special" is the ONLY Automatic Soft Mud Brick Machine. It is Brick Machine, Bumper, Dumper, and Sander, all combined in one Great Machine.

**It Saves Labor and
Improves Your Product**

The "S S S Special" means
Improvement Advancement Progress

The Arnold-Creager Co.
New London, Ohio

land, Ohio. It is estimated the terminal proper will require 6,000,000 face brick alone, and that three times as much common brick will be used. As the Van Sweringen interests, back of this gigantic project, are committee in the ordinance to carry out the same architectural features embodied in the recently completed freight terminal at Orange Avenue and East Twenty-second Street on the east, and the just completed Hotel Cleveland, itself a part of the proposed terminal, on the west, it is taken for granted that similar material will be used in the station buildings themselves. Face brick for the Hotel Cleveland was supplied by the Hydraulic-Press Brick Co. The material used was the "Equitable" brick, so known because it was first used in the new Equitable Building, New York City.

Pennsylvania

The Freeport (Pa.) Brick Co. has been incorporated by A. W. McCandless and associates, Pittsburgh, with nominal capital of \$5,000 to manufacture brick.

The Elk Chemical & Color Co., Ridgeway, Pa., has been incorporated in Delaware by Andrew Urman and associates, Ridgeway, to mine and manufacture clay products and other specialties. The company has a capital of \$500,000.

E. S. Fox & Co., of Reading, Pa., recently celebrated their 50th year in business as manufacturers of sewer pipe and fire brick. The firm has the unique record of never having stopped work for a single day, except on holidays and to make necessary repairs, during the half century.

The Pennsylvania Manufacturers' Association has arranged for the establishment of a legislative bureau at its Harrisburg office. The bureau is designed to be of greatest possible assistance to manufacturers thruout the state in matters pertaining to the legislature. A weekly bulletin will be sent to members setting forth the status of new bills presented in the state legislature.

The Manufacturers' Association of Berks County has been organized by industrial interests at Reading, Pa. The association will be developed for mutual benefit of the local manufacturers so affiliated, and for its initial work will take up the questions of labor, business adjustment and other important problems in industrial lines in an effort to stabilize things to best advantage for all concerned. E. J. Poole has been elected president; Neff E. Parish, vice-president, and J. Turner Moore, treasurer.

In connection with the "Own Your Own Home" campaign of the Philadelphia (Pa.) Real Estate Board, it has been decided to hold an exposition as a companion feature. The First Regiment Armory has been engaged for this purpose, and it is proposed to continue the affair for a week, with exact date to be announced later. It is held that a show of this nature will go far to present the aims and objects of the campaign, visualizing the various features of house and home construction, and the values in owning a home. The exposition will include a showing of all kinds of materials entering into the erection of a dwelling from cellar to roof. Ernest H. Crowhurst has been appointed general manager of the exposition, and is formulating plans for the affair to take place about April 21-26.

Brick and other important building materials hold firm at current prices at Philadelphia, Pa., and vicinity. The price of common brick averages from \$15 to \$19 per thousand, the latter for good hard stock, at the present time. Available stocks are reported as sufficient for all

current demands, and with the many producers in this section this condition will naturally prevail. Brick is sold hereabouts direct from the yard, with price for cartage, etc., added. The demand for face and ornamental brick is light, and in speaking on this subject, O. W. Ketcham, one of the most prominent dealers in high grade brick of this latter character, sets forth that this condition is likely to prevail for some little time to come. Mr. Ketcham, like others in the trade, is decidedly optimistic for the future and expects a strong revival of high grade building work. Even at the present time an increased volume of inquiries are being received, both from local and out of town concerns, indicating that things at least are "on the way."

There is little or no change in the building trades at Philadelphia, Pa., and neighboring sections. There is a little industrial construction brought about by the demand for expansion, with here and there a dwelling or other structure, but on the whole things are "pretty quiet." At the same time prominent men in this section speak hopefully of the future and hold that every day brings an indication of a strong revival of construction in the spring. Plans to a far greater extent are now available for estimating and it is understood that a number of important projects are to be placed under way in a reasonable time. From figures compiled by the local building department it is shown that during the past year the total estimated cost of private construction in this district was \$15,452,670, a decrease of \$19,563,810 over the year previous. A new municipal project to be placed under way at once covers the erection of a group of new public safety buildings on the block bounded by Ritner, Bucknell, Wolf and Twenty-fourth Streets, embracing about 45,000 sq. ft. in area. The structures will be built in red brick, colonial style, with limestone trimmings, consisting of a police station, power house, truck house and stable. The estimated cost is placed at \$406,000, exclusive of the site. Philip H. Johnson is architect and Frank G. Stewart the contractor.

Virginia

The Glasgow Clay Products Co., at Locher, near Glasgow, Va., started the new year under favorable conditions as far as orders are concerned. The company has an order on its books for one million brick to be used in connection with a new roundhouse and shops for the Norfolk & Western Railroad at Shenandoah, Va., and another for one-half million to be used for the new Academic Building of the Virginia Military Institute at Lexington, Va.

Washington

The Western Industrial Chemical Co., Everett, Wash., has been incorporated for the manufacture of fire brick, fireproofing and sewer pipe. F. G. Ramig, a well known manufacturer of Seattle, is president of the new company and C. H. Voll, formerly chemist with the Columbia Red Metal Mining Co., of Seattle, is to be chemist. The company possesses rich deposits of mica and silica in Okanogan County and will commence mining operations at once.

Canada

The Hamilton & Toronto Sewer Pipe Co. has evidenced its faith in the immediate development of Canada's towns and cities and the prosperity of the building and construction industries, by the erection of an addition to its Hamilton plant, which will give an increased output of over 50 per cent.



*There is a Proctor
Dryer for every
drying need.*



*Made by the old-
est specialists in
drying machinery.*

Is 50% Coal Saving Worth While?

By drying your brick and clay products with Proctor Dryers you obtain maximum economy from the start. A coal saving of 50 per cent or more is not uncommon. Every coal saving possibility is always carefully considered in minutest detail by our engineers.

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An efficient fan, bearing, belt drive, etc., always is a coal saver. That's why every driven part of Proctor Dryers is scientifically constructed.

Proctor
DRYERS

Consult with our engineers FIRST, and get the greatest value per dollar invested in your dryer.

Philadelphia Textile Machinery Co.

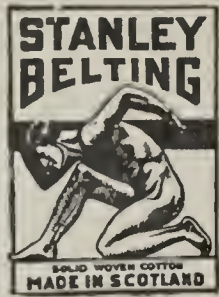
SEVENTH STREET AND TABOR ROAD, PHILADELPHIA, PA.

PROVIDENCE, R.I.
Howard Building

CHICAGO, ILL.
Hearst Building

CHARLOTTE, N. C.
Realty Building

HAMILTON, ONT., CAN., W. J. Westaway, Sun Life Building



UNIFORMITY, Flexibility and Strength are the inseparable features of STANLEY SOLID WOVEN COTTON BELTING.

Uniformity means steady drive; flexibility, less slippage and more power transmitted with less tension. Stanley has more strength because it is solid woven, and therefore has no plies or laps to come apart.

STANLEY BELTING withstands heat, oil and acids better than leather or rubber.

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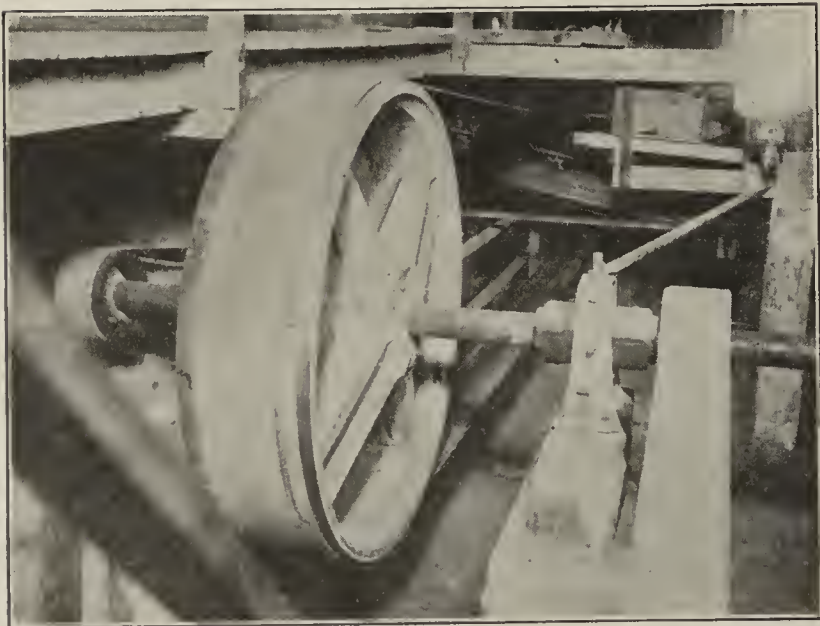
If you want to eliminate your belting troubles, and want to be prepared for the coming big demand for all kinds of clay products, specify STANLEY SOLID WOVEN COTTON BELTING.

Write for prices today.

Stanley Belting Corp.

32-40 So. Clinton St. Chicago, Ill.

Sizes from 1/2 to 42 in.



This company is one of the oldest on the continent engaged in the manufacture of sewer pipe, having been established in 1860.

* * *

Advertising That Pays

With its usual enterprise and progressiveness, the Campbell-Shultz Co., Passaic, N. J., dealers in brick of all kinds and other mason materials, is furnishing its customers with a framed card showing different shapes of standard fire brick for convenience in ordering. This card, 8½ by 11 inches, covers the standard 9 by 9-inch series brick shapes as adopted by the Refractories Manufacturers' Association, showing 28 different styles, including straight, split, wedge, checker, key, side and edge skew, feather edge and the like, and familiar to all in the trade. By sending this out in an attractive frame, the company is assured of the card being preserved. In accepting telephone or written orders for brick of this nature, the exact shape desired can be stipulated without guesswork, facilitating matters thru no loss of time, or errors in shipments. This card, carrying the company imprint following the wording "Any or all of these shapes may be obtained from us," is also a constant reminder, as displayed on desks or hung on walls, in placing orders.

* * *

In Memoriam

It is a sincere grief to us to be compelled to announce that Mr. Henry W. Eliot, Chairman of our Board of Directors, unexpectedly passed away at his home in the early hours of January 7, in the 76th year of his age.

He was born in St. Louis, November 25, 1843, the son of Rev. William Greenleaf Eliot, one of the founders of Washington University, and afterwards its Chancellor for seventeen years.

Mr. Eliot's first connection with the Hydraulic-Press Brick Co. was in 1874 when he became its secretary and treasurer, a position he held until 1905 when, on Mr. E. C. Sterling's retirement from the presidency, he was made president. He had been first vice-president since 1893.

On the election of Mr. Frank Middlekauff to the presidency in 1908, Mr. Eliot was made chairman of the Board of Directors, the position he held at the time of his death.

While Mr. Eliot had long passed the allotted span of three score and ten, his general good health and virility led us to hope that he would still be with us in an active way for a number of years to come, so that his demise so suddenly falls upon us with a shock. But even tho age compels us to render the final tribute to death, it is with profound reluctance that we see Mr. Eliot go. Not only his long connection with the company made him seem one of its indispensable, integral parts, but his sweetness of character, his unbounding integrity, and his magnanimous spirit in dealing with his associates make his loss seem irretrievable.

Born and reared in the West, and thus partaking of its progressive breadth and energy, he retained those fine qualities of his Puritan inheritance that made him a man of earnest enthusiasm for education and reform, of severe uprightness, of courage, in the face of danger and difficulty, of refined bearing and suavity in manners, and of kindly sympathy and fairness in dealing with his fellows.

We shall not see his like again for many a day, but we can all cherish his noble memory and seek to emulate his fine qualities.

Hydraulic-Press Brick Company.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Toronto Foundry Strengthens Organization

Edward Harnes, of Pittsburgh, Pa., has joined the organization of the Toronto Foundry & Machine Co., Inc., Toronto, Ohio, and will have complete charge of their sales department, acting as sales manager.

Mr. Harnes has been connected in the past with such firms as the Pittsburgh Plate Glass Co., the Herman Pneumatic Machine Co., and more recently has occupied a position as sales manager for a national organization having as their main product reduction machinery of all kinds.

He is entirely familiar with the requirements of clay-product manufacturers, and the Toronto company consider themselves fortunate in securing his services. At present Mr. Harnes is assisting the engineering department in improvements to their already well known line of clayworking machinery, but later he will be free to make personal calls upon the trade.

With the acquisition of Mr. Harnes, the engineering department of the Toronto Foundry & Machine Co., Inc., is in excellent shape to take up any and all engineering questions which may be before the clayworking plant owner or manager.

✻ ✻ ✻

Quick-Make Starting Switch

One of the new equipments brought out by the Westinghouse Electric & Manufacturing Co. during the past year is an interesting starting switch. The switch is designed for use where squirrel-cage motors are started with a full line voltage. The switch is known as the Quick-Make (and Quick-Break) Starting Switch (Type 816). Its characteristics are 10 to 100 amperes, 25 h.p. maximum, three-phase, 220, 440 and 550 volts.

This switch is extremely flexible in its applications; in addition to being a motor starting switch it can also be used to control feeder circuits. It may be supplied in any of the following combinations, each having the "quick-make and quick-break" feature, for either hand or shipper-rod operation:

- (a) Non-automatic switch.
- (b) Switch with low-voltage protection.
- (c) Switch with inverse time element overload protection.
- (d) Full automatic switch with low-voltage and inverse time element overload protection.

It is especially suitable for shipper-rod operation on account of the positive action of the contacts. It is impossible for the operator to retard the motion of the contacts after they have started to close—there can be no "teasing" of the contacts. Workmen who are accustomed to starting machines from line shafting by means of shifting belts have no confusing details to learn. They may start the motor-driven machine with the same starting motion they use in shifting belts.

Contacts are opened and closed in oil, thus effectually suppressing arcing. The contact is made or broken so quickly that the eye cannot follow the motion. A rolling action confines the arc to the tips of the contacts and prevents pitting or roughening of the seating parts where final contact is made. A strong spring holds the contacts firmly in the closed position. These features result in greatly prolonged life for the contacts.

CONSTRUCTION—Drawn-steel construction is used, giving maximum strength with light weight, and assuring uniformity and interchangeability when new parts are needed for replacement or repairs. The oil tank is

For Sale—

Equipment Supplies and Materials

FROM an overstock of general construction and mill supplies, we offer for immediate shipment, subject to prior sale, the following:

Iron and Steel Products

Machinery of all kinds
Locomotives
Engines
Water Tube Boilers
New 100 H. P. Turbine
Tanks
Sheet Iron
Pipe
Pipe Fittings
Plates and Angles

Electrical Equipment

Electric Motors
Generator Sets
Copper Wire
Refrigeration Machinery

Hardware Supplies

Hardware of all kinds
Lumber
Roofing
Paints and Oils
Nails
Bolts
Brass and Iron Screws

Miscellaneous

Chemical Supplies
Mixing Machines
Wringers and Presses
Steel Beds and Bedding
Work Uniforms
Woolen Shirts
Shoes

This is a partial list of the materials that we have on hand. If you need anything in these or similar lines write us. We may have exactly what you want. We will submit specifications and prices promptly. Please be careful to address

X. M. S. Department

Hercules Powder Co.
Wilmington, Del.



"Keep to Your Schedules in Spite of the Weather" is Industrial America's Slogan

OWNERS in the Brick and Clay Industry realize that during this winter, their transportation departments must not be interrupted—their schedules must be maintained. Naturally Kissel Trucks, equipped with the *ALL-YEAR Cab*, have become first choice.

The *ALL-YEAR Cab* is the only perfected means of protecting drivers during winter's stormy days, or any disagreeable weather. Its patented features increase results to owners by keeping trucks in operation the year 'round.

You should not delay in seeing your nearest Kissel Dealer if you want uninterrupted haulage and delivery of materials or finished goods.

Kissel Motor Car Co.
HARTFORD, WIS., U. S. A.

KISSEL TRUCKS

supported by snap ring-latches. Removal of the tank clearly exposes the contacts and makes them easily accessible. When necessary to replace contacts each may be removed by taking out a single screw.

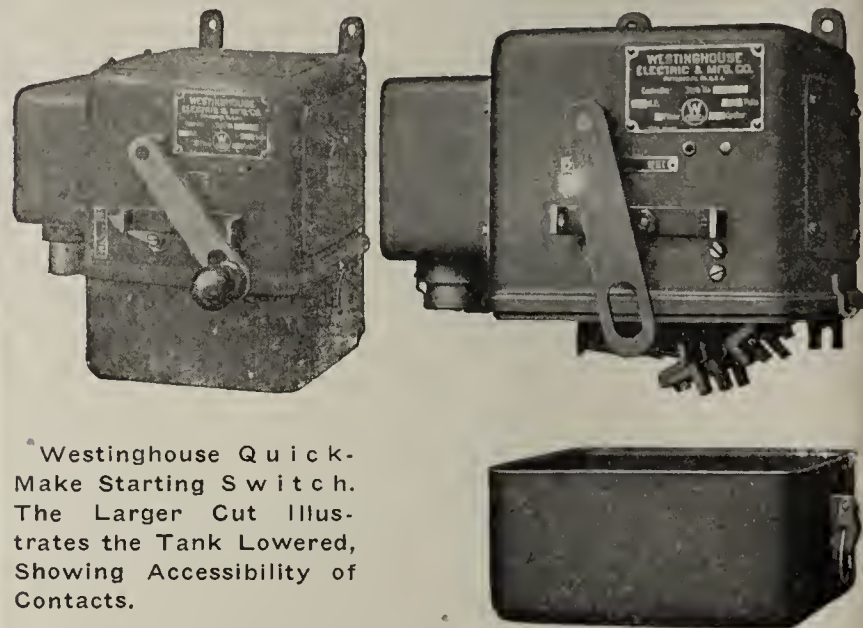
Contacts and contact supports are of the same construction used for Westinghouse type A auto-starters and magnetic contactors. This minimizes the number of spare parts that should be carried.

These starting switches are dust-proof.

Openings are provided for conduit wiring into the top of case; terminals for connecting motor and line wires are accessible when cover at top of starter is removed.

Micarta insulation is used thruout.

Overload and low-voltage attachments may be added with no change in switch mechanism, as the toggle trip is common to all combinations of this switch.



*Westinghouse Quick-Make Starting Switch. The Larger Cut Illustrates the Tank Lowered, Showing Accessibility of Contacts.

LOW-VOLTAGE PROTECTION not only opens the contacts on failure of power, but makes it impossible to close them again until return of voltage. Since the low-voltage coil is connected in the line circuit continuously, means have been provided to close the armature of the low-voltage circuit when the switch is in the "off" position, thereby giving protection to the coil and preventing burn-outs. A safety stop may be provided by connecting one or more push buttons in series with the low-voltage coil.

OVERLOAD RELAY—The overload relay is the same as that used on Westinghouse type A auto starters. It has the inverse time element feature and is equipped with a regulating device, adjustment of which controls the degree and duration of the overload possible on a motor or feeder circuit. This adjustment can be made without opening the switch cover.

HAND RESET—This is an additional safety feature which makes it necessary to set the mechanism before the switch contacts can be closed. Whether the contacts have been opened thru the operation of the low-voltage coil, the overload relay, or by moving the switch handle to the "off" position, it is impossible to close them again until the switch handle has been moved to the "reset" position. Thus protection is afforded workmen and valuable machinery which might be injured by accidental starting of the motor.



The Bonnot Co., Canton, Ohio, have issued their Annual Memorandum Book, and the one for 1919 is of the same high character and similarly practical as those which they have issued in the past.

Aside from its use as a daily reminder, this book also contains quite a lot of information relative to income tax, postal rates, interest tables, weights and measures, and other data that the average business man has to know about.

There is no need to remind the clay products industry that the Bonnot Co. are manufacturers of high-class machinery for the manufacture of brick, tile and hollow ware, and also for pulverizing coal.

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups," to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.



SOME OF THE POSTERS WHICH THE U. S. DEPARTMENT OF LABOR IS ISSUING

Above Are a Few of the Well Written, Concise and To-the-Point Appeals to the American Public to Undertake, Without Delay, Building of Every Description. As Will Be Seen, the Arguments Vary Somewhat, but They Are All Apropos to the Situation. Clay Products Manufacturers Are Urged to Write Roger W. Babson, Chief, Information and Education Service, United States Department of Labor, Washington, D. C., for a Supply of These Posters Which Will Be Cheerfully Furnished. They Measure Nine and One-half Inches Wide by Fifteen Inches High and May Be Easily Posted in Any Number of Places.

The EDITOR'S CORNER

Per Ton Versus Per M

WHETHER OR NOT the idea of selling brick by the ton instead of by the thousand is new, it is well worth serious thought.

It is not so very long ago that one was accustomed to purchase fruit and vegetables by the pint, quart, peck or dozen, but to the man who does his wife's marketing, the pound unit is now very familiar.

There are many advantages in selling a commodity by weight instead of by count or measure. In the case of brick, if they were sold by the ton, it is claimed that the manufacturer who made a brick a little larger than his competitors, would lose one of his "pet" selling points, but the loss thereof would result in more equal competition.

The cry now being raised by contractors and others against the so-called high cost of building materials, especially brick, would be effectively silenced, it is said, if brick were sold by the ton instead of by the thousand because in no other form does the value of burned clay products appeal to such advantage as when those products are marketed by weight. The price per ton of brick, according to present figures, makes a very satisfactory showing with other building materials on the same unit basis. It is claimed and admitted that a dollar can buy more burned clay than any other building material.

As every brick manufacturer knows, his freight bills are figured on the basis of weight. When so many thousand brick are billed it is necessary to compute the weight of that quantity of brick in order that a rate may be placed on the bill and the shipment made. If brick were sold by the ton instead of by the thousand, these unnecessary mathematical calculations would be eliminated.

The manufacturer of shale building brick would come in for a better price for his material, which is entirely warranted owing to the greater manufacturing cost as compared with a mud brick, if building brick were universally sold per ton instead of per thousand because shale brick weighs considerably more than the average soft mud brick. This would be particularly advantageous to the shale brick manufacturer where both types of brick come into competition with one another.

There are other advantages which weight has over number in the marketing of building brick,

the enumeration of which space will not permit. The presentation of the thought is sufficient at this time. It will prove good food for reflection. It is undoubtedly a new idea to some. There are probably objections to the weight unit in some markets but there are many others where it ought to work out advantageously to the brick manufacturer.

* * *

A Good Spirit

ONE of the most vigorous papers read at the recent meeting of the National Brick Manufacturer's Association was presented by Charles H. Bryan, of the Mercier, Bryan, Larkins Brick Co., Detroit, Mich., entitled "Over the Top in the Brick Business."

After painting a vivid word picture of a charge "over the top" into No Man's Land "somewhere in France," Mr. Bryan proceeded to draw a parallel between that thrilling scene and what lies before the common brick manufacturer in 1919.

Mr. Bryan said that cooperation and coordination of energy is what won the victory on the Western front. He said that all of the brick men under the leadership of "General Prosperity" should be ready to go "over the top" and gain the objective, which during 1919 happens to be a large volume of business at a margin that will insure a fair return to all.

Mr. Bryan urged the closest cooperation on the part of every common brick manufacturer and said that every common brick manufacturer present at the N. B. M. A. convention ought to be a member of the Common Brick Manufacturer's Association of America.

This splendid spirit of harmony and working-together is highly commendable. It is only hoped that many will follow out the suggestion of Mr. Bryan and line themselves up definitely with the new common brick association, whose aim and object is one of cooperation and unity for the biggest benefit to the business.

* * *

Uncle Sam Says "Build"

NOW that the war is over, many tales are being told of facts which could not be revealed at an earlier date with regard to the exigencies of war. "Inside stories" are at present in the ascendency and we are being told just what the great

(Continued on Page 216.)

AMERICAN CERAMIC GREATEST MEETING



Arthur S. Watts—Indispensable to any A. C. S. Meeting.

*Record Breaking Attendance at the A.C.S. Convention
Wonderful Year of Progress in This Organization
No Let-up in Activity—The Coming Year Shows*

IT WAS ABSOLUTELY THE BIGGEST CERAMIC meeting every "pulled off." If you were not present at the twentieth birthday of the A. C. S. which convened at the Fort Pitt Hotel, in Pittsburgh, Pa., on February 3, 4, and 5 you missed one of the greatest meetings of its kind ever held by a technical society, and positively the greatest that ever assembled under the name of the American Ceramic Society.

The largest attendance that the society ever had gathered to hear the long list of very profitable papers which were read at this meeting. Some very radical changes in rules were brought up which it was deemed advisable to make in order to keep up with the great expansion in membership and scope of work that is now being done by this organization. Several professional divisions were formed and this marks a new step which means a great deal to the future expansion and success of the society. R. T. Stull was chosen as president for the coming year. The meeting proved to be a grand reunion of many of the older members of the society and a great get-together of goodfellowship and interchange of experience for everyone who attended.

CELEBRATE TWENTIETH ANNIVERSARY

The gathering was a very appropriate one to celebrate the twentieth anniversary of the society and the great expansion and growth since its organization. From a little known and less understood organization—the very name had to be explained even to clay products manufacturers—it has come to be the greatest technical organization in the world devoted to the advancement of the silicate and allied industries.

The American Ceramic Society is not a child of the National Brick Manufacturers' Association, as it is often misrepresented, but is a society that was organized to meet a need not being met by that organization. Its work has always differed from that of the N. B. M. A. both in character and scope.

"Right off the bat" on Monday morning, February 3, a



From Left to Right—C. Treischel, F. Cermak, and L. E. Barringer, all of the General Electric Co., Schenectady, N. Y.

SOCIETY HOLDS *the* n ITS HISTORY

*ion in Pittsburgh, Feb. 3 to 5, is Fitting Close to a
Plans for the Future Indicate That There Will Be
Promise of Revealing Still Greater Development*



R. H. Minton, Vice-President Elect.

large attendance was on hand which increased thruout the day to such an extent that by evening 250 of the society badges had already been given out. It is estimated that a total attendance of about 400 members was present at the convention. This number was much larger than was expected by even the most optimisitic of members and was by

far the greatest attendance that ever met under the society's colors

The meeting was called to order by the retiring president, Homer F. Staley, at 10:00 a. m. on Monday, at which time he delivered his presidential address. In his talk before the society Mr. Staley did not take time to review the activities of the past year even tho in many ways it was the most notable of any previous twelve months in the history of the organization. However, it would be a great oversight not to mention right here that without an able president the activities of the society could not have reached their present proportions and great credit should be given to Mr. Staley for his able leadership.

SUGGESTIONS FOR FUTURE WORK

The salient feature of the retiring president's address was the suggestions which he made in regard to the many things that remain to be done before the society has reached a more complete development. The first was on the enlargement of the scope of the "Journal of the American Ceramic Society." He stated that it was essential that each issue of the journal contain original papers or other material of practical value to each of the industries represented by the membership. Also, it is hoped that a review department be instituted in which the reports of the progress made in the different professional divisions will be given. Furthermore, it is hoped that abstracts of interest to ceramists but more complete in detail than those published in existing abstract journals carrying ceramic departments, be printed.



D. E. Humphrey, Who Still Has an Interest in Ceramics; R. R. Hice, Pennsylvania State Geologist, and Ellis Lovejoy, Who Needs No Introduction or Explanation.



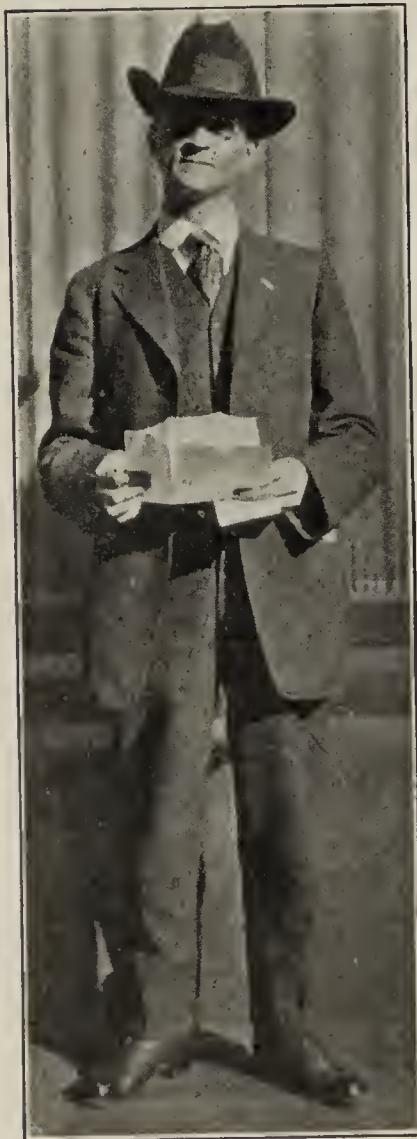
The Forester Brothers—Leonard and Herbert of Veritas Firing Disc Fame. Both are English Gentlemen. Leonard is the Technical Man, and Herbert Puts Across the Sales.



H. Worsham, M. M. McHose and E. F. Gehrig.



Geo. H. Brown, Director of the Ceramic Department, Rutgers College, New Brunswick, N. J., an Important Factor in Eastern Ceramic Circles, and A. F. Greaves-Walker, American Refractories Co., Baltimore, Md.; Mr. Walker During 1918 Served as Chief of the Industrial Furnace Section, United States Fuel Administration.



J. B. Shaw, New York State School of Clayworking and Ceramics, Alfred, N. Y. Mr. Shaw is a Familiar Figure at A. C. S. Meetings. He Has Done Considerable Research Work in Enamels. His Opinion on This Subject is Exceedingly Valuable.



Herman A. Plusch, Adolph Hottinger, and A. V. Bleininger.



J. D. Whitmer and Forrest K. Pence.



Miss Nora Binns, Daughter of Prof. Chas. H. Binns, of the New York State School of Clayworking and Ceramics, Alfred, N. Y., also Secretary of the American Ceramic Society, and Mrs. Arthur S. Watts. For the First Time, the Ladies Were a Feature at the Convention.

TO HIRE FULL TIME SECRETARY

A second suggestion was one that means a great deal to the development of the society. It showed the advantages and necessity of hiring a full time secretary-editor to oversee the business affairs of the society and to act as managing editor of the journal. A high grade man is essential and it will require one who knows ceramics, who has a good command of the English language, and above all who is an energetic business man. His work would include maintaining a voluminous correspondence, in overseeing the business affairs of the society, in editing the journal as to substance and general form, in writing editorials and in securing advertisements. In order that the position may be removed from the field of petty politics and that the occupant may be given some assurance of continuity of employment as long as his work is considered efficient by those in a position to know, it is desirable that the full time secretary shall be hired by the board of trustees, rather than elected by popular vote.

NEED PERMANENT HEADQUARTERS

The third suggestion made by Mr. Staley was the establishment of permanent headquarters for the society. This is a corollary to the hiring of a full-time secretary and will do away with a great deal of confusion now existing with regard to the society's mail which heretofore has been sent to various sources. It will mean a centralized government of society affairs and a clearing house for society activities.

MORE VOTING MEMBERS WANTED

That an increase be made in the number of voting members was another suggestion made in the presidential address. It was pointed out that this was advisable from the standpoint of democracy and equality of voice in society affairs and the president expressed the wish that a great number of men now associate members of the society be elevated to active membership at this meeting.

The fifth suggestion dealt with a definite decision as to the status of the cement and mortar industries in the society's activities. These interests are allied to the ceramic industries and tho thus far proper cooperation has not been maintained between the society and these industries it is expected that in the very near future greater support will be given from this source. In this connection it was shown that it would not be fair to the industries that are now supporting the society to continue to publish material in the interest of those industries that give no support.

Other points brought out by Mr. Staley's speech were that a new spirit was growing in the society which made the organization's welfare of paramount interest to the individual members. The will of the majority members should always be followed. Necessity of strict adherence to the rules to avoid complication and friction was another point made and an urgent appeal for more cooperation in contribution of papers was made. Every one should be able to present at least one paper every two years.

Committee reports followed the above address. M. F. Beecher, chairman of the committee on standards, gave a report of which the chief feature were the recommendations that six tests which had been drawn up, be given final adoption by the society and that a report be sent to the membership.

INCREASED MEMBERSHIP GAIN REPORTED

R. C. Purdy, chairman of the membership committee, made a report which is included in the following. During the past two years owing to the vigorous and strenuous activities of

the membership committee, of which Ross C. Purdy is chairman, the society has doubled the membership which it had compiled in all its previous eighteen years of existence. A year ago it was mentioned in the report of the nineteenth annual convention of this organization that a gain of 285 members, or about fifty-two per cent. had been made during the year 1917. At this year's meeting a gain somewhat greater than last year was made and the drive is still going on without any let up in pep. It is expected that at the meeting to be held next year, a bona-fide membership of two thousand will be reported. This growth is remarkable and great credit must be given to the society, for it is evident that without having some worthwhile features that are attractive to these new members, such a gain could not be made, and also without a real live and "peppy" committee these advantages could not be impressed upon those who have recently sought admission. Much praise is due to Mr. Purdy's committee, which without doubt has been one of the chief factors in obtaining this great increase in membership.

MILITARY AND ECONOMIC PREPAREDNESS COMMITTEE

A. F. Greaves-Walker, who was chairman of the committee on military and economic preparedness, gave a very comprehensive and interesting digest of the activities of his committee which as every one knows, has done splendid work during the war period. This committee was divided up into a number of sub-committees covering the various industries such as chemical stoneware, refractories, porcelain, enamels, etc., of which a chairman was appointed to take charge of the work. It was also mentioned that the society gave much aid to the United States Fuel Administration, and that the society was honored by having a representative on this body. Mr. Greaves-Walker was made chief of the Industrial Furnace Division of the Fuel Administration, which position put him at the head of the section which included a list of industries using more fuel than any other single division.

Another point of great importance mentioned in his report was the fact that Homer F. Staley was the only man appointed on the War Industries Board that was a representative of a technical society.

NEXT CHEMICAL EXPOSITION IN CHICAGO

C. H. Kerr, in making his report on the activities of the committee on cooperation, mentioned that the next chemical exposition would be held in Chicago next September where the American Ceramic Society will again have exhibit space, booths already have been contracted for. The space will be in charge of Mr. Gates, of Chicago. Cooperation between this society and the Ceramic Society of England has been arranged for.

Dr. A. W. Washburn, who represents the ceramic chemistry branch on the National Research Council, was asked by this body to present to the society the plans which were being formulated in regard to the future work of the National Research Council. A chemical industries section will be organized with a chairman in charge of affairs. He will be appointed at a permanent salary. The American Ceramic Society, together with the American Chemical Society, Electro-Chemical Society, Biological Chemical Society, and the American Electrical Society will have representation in the council. The appointment of the membership to the National Research Council will be in the hands of the National Academy of Science and the board of trustees of the latter organization will nominate a member of the above society to

the National Research Council for a period of three years. Several million dollars will be given to the National Research Council to carry on extensive research work by government appropriations and thru endowments.

MONDAY AFTERNOON SESSION, FEBRUARY 3

The afternoon session was given over to the reading of papers as printed in the program which was published in the January 28 issue of *Brick and Clay Record*. In the evening the society split up into various groups and formed several professional divisions. It is expected that the outcome of this new step will be the organization of the society along the lines of the American Chemical Society, which has a number of divisions that meet separately to read and discuss their papers but who join together at certain times for a general business meeting of the society. It is believed that each of these divisions will soon be strongly organized and take care of the problems confronting their own industries. Also, it was predicted that it will not be very long before each division will be supporting at least one fellowship in some university where research can be carried on in their respective lines. A report of the individual organizations will be given later.

Tuesday, February 4, was given over entirely to the reading of papers. In order to accommodate the members of the United States Potters' Association, who were attending the meeting in a body, the papers relating to the whiteware industries were segregated in one group and read before this body.

THE FIRST ANNUAL BANQUET

Two hundred and seventeen guests were present at the banquet held in celebration of the twentieth anniversary of the society. This banquet took the place of the time-honored "Section Q" and it is predicted that it is the first of the annual banquets to be held by the society hereafter. The usual good fellowship and spirit ever prevailing at any gathering of the American Ceramic Society was evident and songs took a prominent place in the program. Owing to the



C. C. Lin and S. Y. Lin, Ceramic Students from the Ohio State University.

fact that Herbert A. Wheeler, first president of the society, who was to have acted as toastmaster, could not be present, this position was very ably filled by Secretary Binns. "What We Are" was the subject assigned to Homer F. Staley, who, after talking at considerable length and all the time cleverly dodging the issue, finally closed his address by saying that no one knew any better than they

themselves "What We Are." "What We Were" was the subject assigned to A. V. Bleininger who reviewed the activities of the society in the past and told an interesting story of its formation. "What We Shall Be" was the topic taken care of by Dr. E. W. Tillotson, who maintained that what we shall be will be dependent upon what we want to be. "Scientifically Speaking," which was Dr. E. W. Washburn's subject, was not at all the dry talk that such a topic as this usually suggests. In a very clever manner he spoke of the science of ceramics connecting it up with historical facts to make it of great interest.

H. Wells, of the Homer Laughlin Pottery, East Liverpool, Ohio, was asked to talk on "Practically Speaking." "Periodically Speaking" was the subject of L. E. Barringer's talk, which dealt with the "Journal of the American Ceramic Society," its accomplishments thus far, and its plans for the future.

Wednesday morning, February 5, was given over to the completion of the reading of papers and to discussions on the subjects of humidity dryers, tunnel kilns, prevention of clinkering of coal on grate bars, etc. Then, in the afternoon, the final session was held and at 6:00 P. M. the convention adjourned. At this final session were read reports of several committees which had not previously reported.

RECOMMENDS PREPRINTING PAPERS

R. H. Minton, chairman of the committee on papers and program, told of the work done in connection with obtaining papers for the "Journal" and also made some suggestions which included the recommendation that this committee hereafter be charged only with the duties of arranging the program and that the editor be given the task of arranging for papers. A second suggestion was that the arrangement of the program be started earlier in the year, at least a tentative program should be made up very early. Thirdly, this committee recommended that a well balanced program be mapped out, and one that would stimulate interest in the direction which required it. The fourth recommendation was that all papers be preprinted so that full discussion can be given in each instance. The committee's fifth suggestion was that the annual meeting should be held in the third or fourth week of February instead of the first week in February as has usually been the case. Another recommendation was to the effect that a symposium be conducted on the subjects of kilns and that a full discussion be invited to help bring out the advantages and disadvantages of each particular type.

REPORT ON THE "JOURNAL"

L. E. Barringer, who headed the committee in charge of the society's affairs at the last Exposition of Chemical Industries, at New York City, reported that 126 names were



Samuel Geijsbeek, Portland, Ore. The Man Who is Said to Have Suggested the A. C. S.

on the register which is a large attendance and he also stated that the committee believed the publicity worth while which was obtained through this means. Mr. Barringer also told of the progress made by the committee of publications, of which he is chairman.

Volume 1, of the "Journal," which contains twelve numbers has been completed and altho the membership has not as yet received all of these issues, they will soon be mailed out. The twelfth number is the society year book containing names of members, the representatives on committees, society rules, etc. Next year, instead of incorporating this material in the regular edition it is proposed that a special pamphlet will be issued for this purpose. The subject of abstracting items of interest to the various ceramic lines appearing in other journals and publishing them in the journal, was also brought up. No definite action had as yet been taken in this direction. The committee plans to give more space to society news from now on and a start in this direction has already been made. A summary of the expense and revenue obtained through publishing the journal showed that the cost of each issue varied from \$330 to \$350 while the returns from the advertisements and subscriptions was \$375 per issue which is a very good showing for the first year of the publication. A commendable feature of the report was that the committee had four meetings thruout the year and each meeting had an attendance of 100 per cent.

REDISTRICTING LOCAL SECTIONS

The committee on local sections and student branches recommended the granting of a charter to the division to be known as the "New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society." The charter was granted by a vote held at this time. Following this the committee of which R. R. Hice is chairman, recommended that the local sections be redistricted and that New York City be taken away from the New York state section and be given to the New Jersey section because of the fact that the interests of this city were more in common with those of New Jersey ceramists.

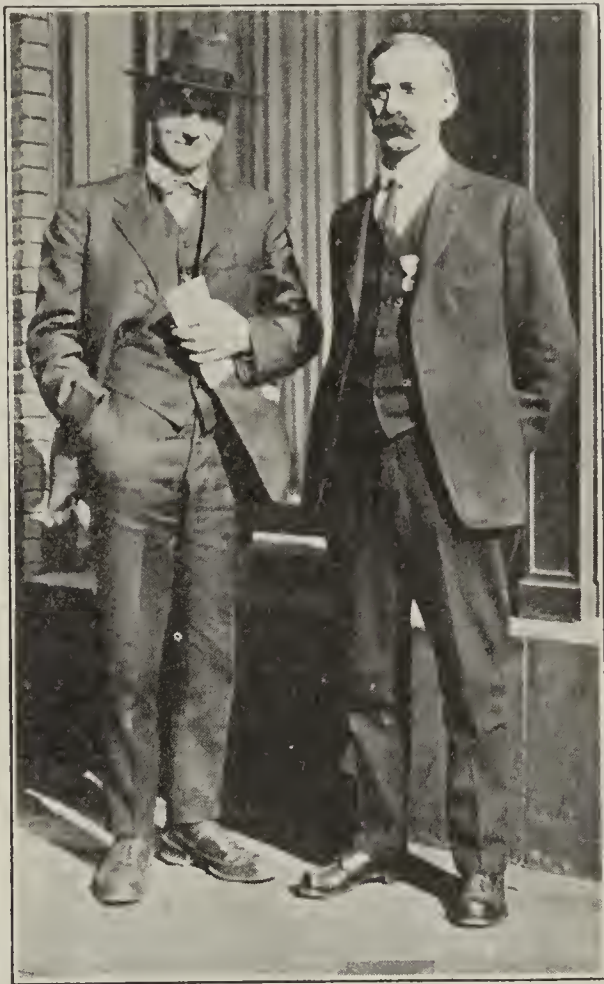
RULES COMMITTEE SUGGESTS MANY CHANGES

Following this report the committee on rules, of which C. W. Parmalee is chairman, made several suggested changes in rules which were read to the society at this time. The first change dealt with the status of contributing members. Instead of calling them contributing members the committee advised that they be called corporation members. Secondly, it was suggested that a large number of associate members be elevated to active membership so that they may have equal privileges in regard to voting, etc. A privilege to corporation members to choose one representative of their company to vote on questions pertaining to the American Ceramic Society activities was thought desirable. Another recommendation was that the initiation fee for mem-



M. E. Gates and E. G. Lord.

bers be abolished after February 1, 1920. A very important change was suggested in the form of a recommendation that the secretary of the society be appointed by the board of trustees for one year and not elected as heretofore. This was done in view of the fact that the society is rapidly approaching the time when it will have a permanent secretary. The secretary will be given a position on the board of trustee but will not have a vote. Another change recommended dealt with the banking methods of the society. Owing to the growth and expansion big changes are necessary and these were proposed to the society. The recommendation was made that the affairs of the society be controlled by the Board of Trustees which shall consist of the president, vice - president, secretary, treasurer, two past presidents and the three trustees. All officers should be placed under bond as is the



Ira A. Williams, Head of the Ceramic Department of the Washington State University, and R. T. Stull, Chief Ceramist of the United States Bureau of Mines and Superintendent of the Ceramic Experiment Station, Columbus, Ohio; Also, the Newly Elected President of the American Ceramic Society.

custom of all large associations. A further change was advocated in the nomination of officers. It was suggested that the nominating committee hereafter make its report before November 1. To take care of the new divisions that are now formed and to develop them it was advocated that each division be governed by a chairman, secretary-treasurer and council of four members. An annual report of the business conducted and the meetings held thruout the year should be made and presented to the society.

At this point, an exceedingly large number of associate members were raised to active membership because of the work they have done for the society in one form or other. This list included one hundred and one resident associate members and thirteen foreign associate members making a total of one hundred and fourteen promotions. This large number of men includes every phase of the industry, the object of the society being to maintain a well balanced organization at all times.

THE MAN WHO SUGGESTED THE A. C. S.

At this moment it happened that Samuel Geijsbeek was in the room and he was called upon to give a talk before the convention. Mr. Geijsbeek is largely responsible for the formation of the American Ceramic Society since it is stated that he was the one that suggested an organization that could discuss matters that the National Brick Manufac-

turer's Association was not taking care of at that time. Mr. Geijsbeek was not only a pioneer in regard to the American Ceramic Society but has pioneered many other projects. He is largely responsible for the pottery industry in Colorado, the organization of clayworking organizations on the Pacific Coast, and now expects to do some pioneer work in Europe where he will make investigations in matters of interest to the building industries. Mr. Geijsbeek was given a cordial reception.

R. T. STULL ELECTED PRESIDENT

The final matter taken up was the announcement of the result of the ballot. Unlike other years, there were three candidates for the presidency this time and the outcome of the ballot gave R. T. Stull the majority of votes over any other candidate. R. T. Stull is a well known figure in the clay industry. He was at one time head of the department of ceramic engineering of the University of Illinois and later went into commercial work, being connected with the Dunn Wire Cut Lug Brick Co. for a considerable period of time. Recently he was made chief ceramist of the United States Bureau of Mines and superintendent of the Ceramic Experiment Station located at Columbus, Ohio. Mr. Stull is an all-around ceramist but an expert in die construction, manufacture of enameled brick and the overcoming of laminations. He has always taken an active interest in the affairs of the American Ceramic Society and is well liked by everyone.

R. H. Minton, who was elected vice-president of the society, is with the General Ceramics Co., of Metuchen, N. J., manufacturers of chemical stoneware. Mr. Minton, as chairman of the papers and program committee, has done some very good work for the interest of the society. He is a very energetic worker and puts in serious efforts in everything he does. His personality is exceedingly pleasing and

he will without doubt make a wonderful team-mate for President Stull.

Secretary Charles F. Binns, of Alfred, N. Y., was re-elected to his office, while M. F. Beecher, of the Norton Co., was elected to the board of trustees, taking the place of A. F. Hottinger, of the Northwestern Terra Cotta Co., whose term expired this year. Mr. Beecher, who with R. D. Landrum and E. T. Montgomery, is a member of the board of trustees, is a very young man and has done some valuable work on the committee of standards of which he is chairman. He is very active and will make good in the position he now holds.

An account of the formation of the professional divisions, their aims and plans for the future, together with the roster of those who attended the convention, will be published in next issue.



Paper on Graphite Ready for Distribution

War Minerals Investigation Series No. 3 has just been completed and is ready for distribution by the Bureau of Mines, Department of Interior. The bulletin is entitled "Preparation of Crucible Graphite" and was written by George D. Dub, who made an extensive investigation on the subject.

The paper includes a survey of present mining, milling, refining, sampling, and analyzing methods; experimental work on concentration and refining to improve present practice; experimental work in crucible manufacture to determine the properties of domestic flake and the maximum proportions that might be used without impairing the quality of crucibles; photomicrographic work on crucibles; the establishment of a standard method of sampling finished graphite; the development of a standard method of rapid, accurate chemical analysis.

A copy of this bulletin may be had by writing to the Bureau of Mines, Washington, D. C.



UNCLE SAM *is* SAYING to COUNTRY, "BUILD"

(Continued from page 209.)

conflict has meant and would have meant had it been prolonged. As we learn the real facts of the emergency, we are glad that the war is over and that peace once more reigns.

Every clay products manufacturer is thoroly familiar with the way in which the Government laid its repressing hand upon building construction during the war. We thought that we had a lot to "kick" about concerning the way in which things were going with regard to building. It seemed as tho Uncle Sam had "picked on" the building business to do most of the saving for the country. However, we did not know the worst. It probably is not violating any confidence to say that the Government actually subscribed for a well known building report service and proceeded to write every individual in the United States who was reported as being interested in erecting any kind of a structure, asking the individual to please refrain from so doing as the United States needed men, money and materials that would otherwise be consumed by the project. Had we known this it would probably have been the proverbial straw that broke the camel's back.

But now what a change. Uncle Sam probably feels that he has been rather hard on the building interests—necessarily, of course,—and realizing that something must be done

to give idle labor employment, has turned clear around in his attitude toward building and has launched what is probably the greatest offensive ever seen for building construction.

As most of our readers know, the Department of Labor has a new subdivision which is concerned with pushing building construction. This particular subdivision is busily engaged in sowing propaganda for a large boom in construction. Among the things which it is doing in this connection is the issuance of a series of posters, which is very noteworthy and commendable. Some of these posters read as follows: "Keep Times Good by Building Now"; "Own a Home for Your Children's Sake"; "Construction Adds to the Wealth of the Country"; "I Want to See Every Wagerworker Own His Own Home"; "During the War It Was Patriotic Not to Build, Now We Can Best Show Our Patriotism by Building"; "Best Efforts on This Building Will Prove An Inspiration for Someone to Erect Another Nearby," etc.

A supply of these posters can be obtained by addressing Roger W. Babson, chief of the Information and Education Service, United States Department of Labor, Washington, D. C. Every clay products manufacturer ought to send for a supply of these posters and put them up in conspicuous places in his town or city. We cannot do too much of this sort of thing.

N. B. M. A. CONVENTION *at* PITTSBURGH

*Annual Get-together Not So Well Attended as
in Other Years Due to Various Handicaps—
Some Papers and Discussions Have Merit*

THE "PEACE CONVENTION"—the thirty-third of a series of memorable annual meetings—was more than a name at the get-together of the National Brick Manufacturers' Association this year at the William Penn Hotel, Pittsburgh, Pa., February 5 to 7. Certainly the great overseas conflict is past. Every brick manufacturer present had just cause to rejoice because of that fact, especially when he remembered the fifty per cent. fuel allotment order and a rising wage scale in the face of a diminishing market during 1918. But the atmosphere of the convention was one of peace and tranquility among the various interests in the great building brick business. Petty differences seemed for the moment, at least, to be put aside and there was a refreshing spirit of cooperation at the meeting.

The convention opened at 3 p. m. Wednesday, February 5, with a registration of something over 250—not so good as in some former years when the roster saw well over 500, and even approaching the 1,000 mark. There are many reasons for not expecting a record-breaking attendance this year. Many brick makers have not yet recovered from the shock of the war and then there are other matters of pressing importance at the present time which have distracted the attention of many from the N. B. M. A. annual. In addition, the face brick manufacturers and dealers were busy getting ready for their big conventions in Chicago, February 10 to 12, as was also the youthful Common Brick Manufacturers' Association of America, which will hold its first annual meeting in Chicago; February 12 to 14.

However, numbers do not always indicate a banner convention and what the N. B. M. A. annual lacked in numerical value, it gained in quality for in the figures that adorned the lobby, the veteran convention-goer could distinguish many of the old-timers who have not failed to be on hand at the rap of the gavel for time almost beyond remembrance.

WELCOMING ADDRESSES SOMEWHAT PESSIMISTIC

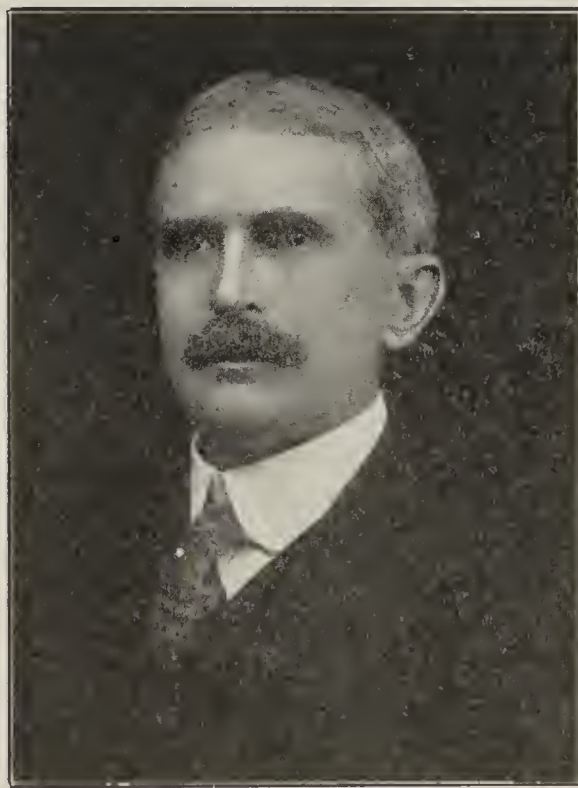
Mayor E. V. Babcock, of Pittsburgh, was the first speaker at the opening session on Wednesday afternoon, February 5, at 3 p. m. He gave an address of welcome on behalf of the city. Frank J. Lanahan, chairman of the convention committee, Chamber of Commerce, followed with a word of welcome on behalf of that body of business men.

The opening speakers, in the last analysis, were somewhat pessimistic in their message to the brick men. Unemployment of labor was more than touched upon—it was emphasized and all present were urged to keep their men working and to find jobs for men who had no work. Meeting in Pittsburgh, a tremendous steel and iron center, it is easy to understand the rather gloomy statements of the welcoming speakers. As one brick man from the Middle West said a little later on, he, along with others, had felt during the war that munition orders were not being divided equitably

as to sections of the country, but now that he saw what was happening in Pittsburgh and other large munition and war supply centers, he was glad that he did not have a lot of war business, for in his part of the country, business was waking up in good shape and unemployment was a nonentity.

President George H. Clippert, of Detroit, following with his annual address, was more cheerful as to the outlook and said that he expected 1919 would be a great year for the brick business.

John W. Sibley, of Birmingham, Ala., treasurer of the association, introduced his report with the usual "darkey" stories. He said that the N. B. M. A., in common with other interests



THOMAS E. WILSON

in the brick business suffered financially during 1918. The expense of the association exceeded the income by \$307.63, but owing to good husbandry of the resources of past years, it was still possible to report a balance in the treasury of \$565.10. The extra expense of maintaining the association and its activities during the preceding year was attributed to war work in cooperation with the Government.

SECRETARY MAKES REPORT THIS YEAR

For the first time in a number of years, Secretary Theo. A. Randall made a report of his work and that of the associa-

tion during the past year. Mr. Randall said that he had prepared to correct, in his annual report this year, misapprehension that had sprung up in some quarters as to the plan and purpose of the N. B. M. A. It had been decided, however, in executive session to deal more with the future than with the past and so his report dwelt upon the possibilities of the association during 1919. He said, however, that he wished to correct the idea that the N. B. M. A. was a "social organization" purely and simply. Attention was called to the value and helpfulness of the proceedings of the 1918 convention at Indianapolis, which were circulated just prior to the 1919 convention.

The officers were elected in the customary manner, the vice-presidents being moved up and a new third vice-president elected. After the usual formalities the new staff of executives stood as follows: President, J. W. Robb, Clinton, Ind.; 1st Vice-president: W. K. Hammond, New York, N. Y.; 2nd Vice-president: W. E. Dunwody, Macon, Ga.; 3rd Vice-president: Thos. E. Wilson, Pittsburgh, Pa.; Treasurer: John W. Sibley, Birmingham, Ala.; Secretary: T. A. Randall, Indianapolis, Ind.

Warren Griffiss, of Baltimore, was elected a member of the Technical Investigation Committee in the place of R. G. Kanengeiser who is no longer in the brick business.

"Build Now," the first paper on the program was read by Lieut. J. Edwin Kopf, Construction Division, U. S. Air Service, a practicing architect of Indianapolis. Lieut. Kopf recently returned from England where for a year he was Construction Officer of the 7th Construction Bricklaying Co., A. S. A., of the first U. S. Bricklaying Regiment, the only military regiment of bricklayers ever organized. This regiment constructed permanent brick buildings for military aerodromes thruout Great Britain, which were used for the final training of the United States and English fighting aviators before they were sent to the war zones of France.

A. V. Bleininger, secretary of the Committee on Technical Investigation, then made a report in behalf of that committee. This had mostly to do with freezing tests on brick. The war had naturally interfered with the work of this committee, and so, little progress has been made.

MR. BRYAN'S PAPER FULL OF "PEP"

The first session was closed by the reading of a very well prepared paper entitled, "Over the Top in the Brick Business," by Charles H. Bryan, of Detroit. Mr. Bryan's talk was charged with "pep" and was really a very able presentation of the subject. (See editorial on this address.)

The session on Thursday morning, February 6, was opened by a highly practical paper on "Tonnage vs. the Per Thousand Basis in Selling Clay Products," by Thos. E. Wilson, of Pittsburgh, Pa. A reproduction of this excellent talk is impossible at the present writing due to the iron-clad rules of the association governing the printing of papers until "the proper time," but a brief, concise and adequate discussion of this address is given in the "Editor's Corner."

"Our Labor Problems" was handled very well by Nicholas Vander Pyl, Oberlin, Ohio, representing the U. S. Department of Labor, Washington, D. C. Mr. Pyl said that after a succession of periods of control on the part of southern slave interests in pre-civil war days and latterly by the business interests of the country in the post-war days in the shaping of the legislation of the nation, the labor element was slowly but surely coming into political power and was a very important factor to be reckoned with during the readjustment period. Mr. Pyl detailed the work of the Department of Labor and the United States Employment Service during the war, all of which was of great interest to the brick man. He

said a matter of the greatest concern to the Government at the present time was the existing unemployment of labor. Uncle Sam is doing all possible to remedy this condition, a part of which is the plan to get started without delay all possible public works and highway improvements.

Ira A. Woolson, C. E., New York, N. Y., representing the National Board of Fire Underwriters, talked on "Brick Without Straw," while John F. Lent, of Pittsburgh, Pa., spoke at length on "The Evolution of Shipping."

After lunch at the Pittsburgh Chamber of Commerce, on Thursday noon, the third session convened in the auditorium of the Chamber of Commerce where a number of stereopticon views and motion pictures were thrown on the screen to illustrate a talk on "Plant Management," by R. C. Barton, of Zanesville, Ohio, and "Industrial Highways," by Frank Wood, with the Danville (Ill.) Brick Co.

Ralph K. Hursh, Department of Ceramics, University of Illinois, Urbana, Ill., spoke on "Heat Balances of a Kiln Fired With Forced Draft."

JOINT MEETING WITH BUILDING OFFICIALS

A joint meeting of the N. B. M. A. and the Building Officials Conference was held on the morning of Friday, February 7. This was done at the suggestion of Rudolph P. Miller, of New York, chairman of the executive committee of the Building Officials Conference. With Mr. Miller presiding, a paper on "Brick Work," prepared by M. R. Pearse, building commissioner, of Toronto, Ont., was read. Immediately following, a prominent architect of Pittsburgh, read a very well prepared discourse along similar lines. Both of the talks were followed by an animated discussion.

There were present in the audience a number of building commissioners, building superintendents, building officials, in short, men whose business it is when they are in the home cities to see that the building laws are enforced. These took part in the discussion. They talked about hard brick and soft brick; about red brick and salmons; about the use and abuse of the material. They condemned thin walls and said that it was foolish to talk about a brick house being fireproof when it had a wooden shingle roof. They said that brickmakers as a rule and as a class were a back number and if they did not wake up, the manufacturers of other fireproof structural materials would soon leave them far behind in the race for business.

The criticism and comments of these men, outside of the brick business, but fully acquainted with the use of the material, was extremely helpful and as W. E. Dunwody, of Macon, Ga., expressed it, it was a sad commentary on brickmakers and their business that there were not more present to hear the remarks of the building officials.

Albert V. Bleininger, one of the most beloved, respected and able men connected with the clay products manufacturing business, then proceeded to shake them up some more. He talked on "Some thoughts on Industrial Reconstruction (Readjustment) with Reference to Clay Industries." It was very evident that Mr. Bleininger was not altogether satisfied with the way things were going in the N. B. M. A. He said that it might be well to recall the earlier days of the association when questions of a technical nature and manufacturing problems were the chief concern of the N. B. M. A. He said that it was foolish for the association to have its finger in the promotion pie but rather that that problem should be left to an association of common brick manufacturers whose principal duty was to look after the merchandising end of the business. Mr. Bleininger said that the formation of sewer



Look 'Em Over and You Will Get a Good Idea of Who Attended the Annual Banquet of the N. B. M. A.

pipe, face brick, terra cotta, hollow building tile, drain tile, refractories, common brick, pottery and other similar associations which had purely and simply to do with their respective branches of the industry, was a mighty good thing and something to be highly commended, only he said, there ought to be some central agency in which these various branch associations could get together and promote the common good. He said a representative council might be formed on the delegate body plan. In his opinion the machinery and organization of the N. B. M. A. might be used for this purpose.

NEW LOCAL ASSOCIATION TO BE FORMED

An outcome of this stimulating talk by Mr. Bleininger was the introduction of a resolution by W. D. Richardson, calling for the appointment of another committee, of which the secretary of the N. B. M. A. was to be the secretary, whose duty it would be to promote and assist in the formation of local brick associations in the various centers of the United States where such organizations do not now exist. Such local bodies, when formed according to the resolution, would be directly affiliated with the N. B. M. A. and would be commercial in character. This resolution was referred to the chairman of the resolutions committee and later adopted by the convention.

A. F. Greaves-Walker, American Refractories Co., Baltimore, and connected with the United States Fuel Administration during the war, talked on "Fuel Economy."

"We are all quick to denounce the cement manufacturer and knock his material," said Mr. Walker, "and I was as guilty as anyone, but since rubbing elbows with some of these men in connection with my work on the fuel administration, I have a different opinion of them. The clay products manufacturer, naturally, wanted the cement man curtailed fifty per cent. if he was to be out that amount, but when we came to investigate, we found that even before America entered the war in 1916, certain cement manufacturers made improvements in their equipment,

whereby they saved large quantities of coal and all of the cement men were practicing fuel economies to such an extent that further curtailment was impossible. The only thing they had not done was to use their waste heat for generating steam and some of them were willing to spend \$125,000 or \$150,000, if the administration insisted, to do that. Mr. Walker made a number of very practical suggestions along fuel economy lines which every brickmaker would do well to put into practice."

A number of questions of a practical nature such as: "What is the best length for a progressive tunnel dryer?" "Can the auger machine be adopted to the Hudson River clays?" "What is the most economical method of digging and handling clay from bank to machine?" and "Which is the better method of drying brick—steam or direct radiation?" were discussed and various answers given, depending upon the circumstances of each hypothetical case.

After the passage of the usual resolutions and the reading of communications from parties expressing their regrets at not being able to be present, and the reading of invitations from various cities, from Springfield, Mass., to San Francisco, Cal., inviting the association to hold its next convention in their particularly well-equipped municipality, the convention adjourned.

The final roster showed a registration of 333, of which approximately 170 were manufacturers of some form of clay product or engaged in the sale thereof.

BANQUET A VERY ENJOYABLE FEATURE

The beautiful banquet room of the William Penn Hotel, was the scene of a splendid dinner on Thursday evening, February 6. At 8 p. m. the guests of the National Brick Manufacturers' Association took their seats at the tables, while listening to the strains of the orchestra. About two hundred people, including many ladies, partook of the good food, listened to the interesting speeches, and enjoyed the merriment which characterized the evening.

After the appetites of those present had been satisfied, the tables were cleared away and the assembly congregated in front of the speaker's table where President J. W. Robb, of Clinton, Ind., introduced John E. Laughlin, a lawyer of Pittsburgh, as the toastmaster of the evening.

Mr. Laughlin proved to be a very clever toastmaster—his wit a great delight to the audience. However, he nearly got himself into difficulty by referring to some biblical history in connection with brickmaking which, according to the rules of the association, cannot be mentioned without a fine of \$5 being imposed upon the offender. He, being a lawyer, managed to crawl out of the situation.

The first speaker of the evening was Hon. J. F. Burke, of Pittsburgh. He spoke admirably on the subject of rebuilding the world so that each nation would get justice and made frequent mention of the work undertaken at the peace conference. "Little Grains of Sand", which was the subject of Dr. S. W. Stratton, of Washington, D. C., who is director of the Bureau of Standards, dealt with the various forms of standardization which the Bureau of Standards has been carrying on recently and referred especially to work done in connection with war needs. Thus, means of determining positions of the enemy's guns, were worked out by this department, as well as tests on shells, clothing, and also the taking of pictures from airplanes without showing the mist which formerly prevented the taking of a clear picture.

The wonderful work which A. V. Bleininger, director of the clay products section of this bureau, has done with regard to the manufacture of optical glass and other materials, was also referred to.

Dr. C. L. E. Cartwright, of Pittsburgh, proved to be very humorous, in fact, much more so than is the usual divine, delighting his audience by both his light and serious remarks.

A review of the history of brick, including its use and development in the various historical periods, made the address delivered by F. W. Price of Toronto, Ont., Canada, exceedingly interesting.

Nicholas Vander Pyl, Oberlin, Ohio, was assigned the topic of "When Dreams Come True." He told those present that while Dr. Stratton had material things to standardize and control, the brick manufacturer dealt largely with human frailty which was a much more difficult task to standardize. However, he predicted that in the end the proper cooperation and understanding between the manufacturer and employe would ultimately come out all right and then "Our dreams will have come true."

* * *

Paving Brick Bureau Expanding

A large and spacious suite of rooms are now being put in order on the ninth floor of the Chamber of Commerce Building, Chicago, for the new headquarters of the Illinois Paving Brick Publicity Bureau. Formerly the offices of this bureau were located in the Otis Building, Chicago, but with the expected expansion in business, larger quarters were sought, hence the reason for the removal.

It is expected that the paving brick business will slowly but surely recuperate; in fact, it is reported that several jobs are already opening up. This naturally means that the bureau will have more work to do and the new offices offer better facilities for this increase.

The Illinois Paving Brick Publicity Bureau will probably

change its name sometime in the near future and has now added the state of Wisconsin to its jurisdiction. The offices are under the management of F. L. Middleton.

* * *

Clay Miners' Association To Be Formed

A meeting of all miners and shippers of fire clay will be held at Pittsburgh, Pa., during the month of February, to form a new association. This association will differ from that started some months ago when a war service committee was appointed of clay producers. This war service committee represented producers of kaolins, ball clays, and all materials used in the manufacture of whiteware bodies, as well as those clays used in the manufacture of crude ware. The new organization will be made up only of miners and shippers of crude fire clay such as is used in the manufacture of fire brick and stoneware. It is expected that a permanent association will be formed at the Pittsburgh meeting.

* * *

Refractories Committee Preparing for Big Work

Committee C-8, on Refractories, of the American Society for Testing Materials, met at the William Penn Hotel, February 6. A. V. Bleininger, of Pittsburgh, is chairman of this committee and W. H. Fulweiler, of Philadelphia, is secretary.

The committee is taking stock of the situation in the refractories field, particularly with regard to the use of the material, prior to some active work along the line of collecting comprehensive data to be used in determining for just what work each branch and quality of brick is best suited. It is claimed by some that the very best quality of flint fire clay brick are being used in places where a less expensive brick would do just as well.

The committee has considerable work before it which when completed should be exceedingly valuable and helpful to the refractories branch of the clay products manufacturing industry.

* * *

W. D. Henry Dies After Brief Illness

William David Henry, president of the National Fire Proofing Co. and other Pittsburgh concerns, died at his home in Sewickley, Pa., on February 6. He became ill about a week prior to that date when he suffered an attack of pleurisy, which developed into influenza-pneumonia.

Mr. Henry was a pioneer of the hollow tile fire-proofing industry and was a noted authority on building construction. Besides the National Fire Proofing Co. of Pittsburgh, he was president of the National Fire Proofing Co. Ltd., of Canada; the Diamond Forge & Manufacturing Co., and the Gage Coal & Coke Co., of Pittsburgh.

Born in St. Paul, Minn., September 17, 1863, he was educated in the public schools of Pittsburgh, and later was graduated from the University of Pittsburgh. He engaged in the manufacture of hollow tile in 1889, when the manufacture of the material was first inaugurated. In 1899 he organized the National Fire Proofing Co., of Pittsburgh.

* * *

The Illinois Clay Manufacturers' Association will follow its plan of last year when it met in conjunction with seven allied organizations. This year's convention has been put off until April.

TRANSPORTATION COSTS

an IMPORTANT BUSINESS FACTOR

Further Increase in Railroad Freight Rates With Sympathetic Rise in Express Rates Rumored—Clay Products Men Turn With Increased Interest to Use of Motor Trucks, Which May Lead to a Forward Movement Forward of Clay Products Via Motor Truck

By Waldon Fawcett

A STRAW HERE and a straw there to show which way the wind is blowing—letters from clay products men in widely separated sections of the country—indicate a growing realization all thru the industry that the question of transportation costs is one of the important business factors in the era of readjustment. Some of the far-sighted men in the trade have bluntly told official Washington that the revival of building operations on a large scale is, in no small degree, dependent upon the settlement of this question of transportation costs. In other words, they contend that the question of wages in the building trades is no whit more weighty an influence than the cost of the transportation of brick, tile and other essential building materials.

To outsiders and superficial onlookers in officialdom it has appeared passing strange that clay products men should suddenly become exercised over this question of transportation costs just at this juncture when so many business men are, figuratively, tossing their hats in the air because of the sharp cuts on ocean freight rates. The explanation is not far to seek. Clay products men are not greatly interested in ocean rates. Indeed their interest may be said to be confined to a limited movement of their product in coastwise shipping. On the other hand, they are vitally interested in railroad transportation rates and right in the shadow of the hurrah over the reduction in carrying charges for oceanic commerce comes an insistent rumor of a further increase in railroad freight rates, with a sympathetic rise, presumably, in express rates.

McADOO PREDICTED REDUCTION IN FREIGHT RATES

Now a few clay products men have been hoping against hope that William G. McAdoo was right when, upon retiring early in January from the office of Director General of Railroads he, by way of farewell, held out hope for a reduction in freight rates. Talking to a group of United States Senators he remarked: "I think we will be able to effect very large economies in 1919 and I think that at the end of the year we will be able to reduce the rates, tho to what extent I do not know. I have a very strong feeling that rates can be reduced."

Perhaps the former head of the U. S. Railroad Administration was speaking with the proverbial optimism of the man who is about to set out on a sorely-needed and long-anticipated vacation. In any event his assurance is not shared to any extent in railroad or official circles. The whole talk at railroad and governmental

headquarters just now is to the effect that a further increase in freight rates will be necessary and there is talk of marking up the carriage charges another 10 per cent. on top of the 25 per cent. advance made not long since. No less an authority than Thomas DeWitt Cuyler, spokesman for the Association of Railway Executives, a few days ago stated to the Committee on Interstate Commerce of the U. S. Senate that, if they kept on at the present rates the railroads would show a big deficit at the end of 1919.

It is because of a dawning appreciation in business circles that this question of railroad rates is bound up with the issue of Government ownership of the railroads—is, indeed, the heart of it—that we at this juncture find so many shippers and receivers of goods suddenly sitting up and taking notice of the controversy now in progress before Congress with respect to the future of the railroads. Leaders in many industries, clay products among the rest, have lately commenced to harbor suspicion that if the railroads pass permanently to Government control there can never be any readjustment of wages, nor reduction of overhead, without which there can be no revision downward of freight rates. In consequence of this awakening, Washington is being flooded with communications from trade associations and individual business houses demanding that the railroads be returned as promptly as possible to private management and operation, under whatever system of Government regulation and supervision may be deemed advisable.

CLAIMS GIVEN SCANT ATTENTION

Another new element that has been injected in the situation to bestir business men to action is the discovery in many a business house when inventory was made in January that the concern in question has pending an unprecedented number of claims against the railroads. There is no question but what the proportion of loss, thefts and damage sustained by shipments in transit during the year 1918 increased markedly and when this increase went hand in hand with in inverse ratio of tardiness in adjusting claims the situation was well calculated to rile shippers and receivers of goods. There is no question but what this muddle over the settlement of just claims has been due in part to the inefficiency of employes who sought to save themselves trouble and work by putting off a claimant with the plea that nothing could be done because Uncle Sam was responsible. On the other hand there has unquestion-

ably grown, among business men, a feeling that their claims for losses and damage have received scant attention because railroad management is centralized to a great extent and the average shipper is located far from headquarters. This feeling of being held off at arm's length, by actual distance, from administrative offices as well as by mass of red tape, is undoubtedly responsible for much of the sentiment that demands the return of the railroads to private operation. It is to appease in some degree the shippers who are peeved over the necessity for doing business at long range that the Railroad Administration has set up its so-called public service freight bureaus which are supposed to take the place of the so-called off-line agencies that were discontinued when Uncle Sam took over the railroads.

Facing the possibility of another boost in freight rates, clay products men are protesting to Washington more energetically than ever against the circuitous routing of shipments. The sending of freight "the longest way around" has long been a grievance with clay men. It has always been a source of annoyance because very often brick, tile and other clay products are shipped for immediate use and the delays due to faulty car movement prove an embarrassment to everybody concerned. Now, with freight rates marked up sharply and apparently due to go higher, there is an added disadvantage in that the product to be transported is bulky and the cost of conveyance will be heavy enough without making it unnecessarily heavier by undue length of haul. One of the first General Orders issued by the U. S. Railroad Administration after the Government took control was for the elimination of circuitous routes but clay men assert that the improvement has been more fancied than real. Influential men in the clay products line do not hesitate to say that they feel that now that so much has been done within the industry to reduce cross hauling and other wasteful features of distribution it is up to the railroad management to make sure that rerouting is resorted to wherever there is a circuitous route.

CLAY MEN SHOULD BE REPRESENTED AT HEARING

Officials at Washington who have a certain amount of sympathy for clay products interests in their tussle with transportation problems suggest that the industry certainly should make the weight of its opinion felt in the discussion now in progress as to the railroad administrative structure and policies of the future. The Committee on Interstate Commerce of the U. S. Senate has just opened hearings on the question of extending the tenure of Government control of the railroads and many trade associations in diverse lines are seizing this opportunity to get on record with respect to the transportation needs of their respective industries. It is suggested to me also that where a trade association in the clay products line does not see fit to delegate a spokesman to appear at Washington to present this issue at least it may be worth while to file a brief with the committee that is making this inquiry.

MOTOR TRUCK MAY HELP SOLVE PROBLEM

With railroad freight rates up in the air and more likely to go higher than to come down this year it is logical that clay products men should turn with increasing interest to the use of motor trucks for long-distance hauls as well as for strictly local service, as the latter term is usually used. Correspondence passing over the desks of executives at Washington shows several different "leads" with respect to clay products interests. For

one thing, there are inquiries with respect to the standardized truck models developed for the U. S. War Department incident to military service and which are now to be made available for commercial demand.

Queries have also been received from clay products men as to the possibility of the transportation of their products as "return loads" at rates that would make it an inducement to ship by this instrumentality instead of by freight, especially when promptness of delivery is taken into account. This tentative proposal on the part of clay products men has struck a responsive chord in Washington. Two governmental forces, namely the Post Office Department and the U. S. Bureau of Markets, a branch of the Department of Agriculture, are striving to encourage the operation of rural or inter-city motor truck express or freight services as a means, primarily, of bringing to market farm produce that would not otherwise find a profitable outlet. The deeper they have gone into this proposition, however, the keener has been their realization of the importance of the "return loads" end of the enterprise. Indeed, it has been made clear that the plan will, in many instances, prove successful only if freight can be found for the return trips of the trucks after delivery of farm produce has been made. So impressed are the Federal specialists with this angle of the situation that they are taking steps to persuade country storekeepers and small town merchants to specify delivery of freight by motor truck. Sensing, as they do, the trend of the farming population to fireproof or slow-burning construction for farm buildings the traffic experts are hopeful that if manufacturers and dealers do their part a considerable movement farmward of clay products via motor transport may be developed.

SYSTEM OF IMPROVED HIGHWAYS WILL AID

In connection with this idea of delivering clay products on hauls, up to say 200 miles by motor truck, men in the industry will feel a double interest in the project now before Congress for the expenditure of several hundred million dollars for a system of improved highways thruout the United States. Every man in the industry is bound to feel a certain interest in this ambitious program anyway, merely because of the market it will provide for the output of the industry and now on top of that we have the consideration that it will provide roads on which there can be moved with rapidity and economy heavy loads of clay staples and specialties. Of course this big road-building undertaking is proposed primarily to provide work for demobilized soldiers and other unemployed labor but that does not in the least affect its bearing on the industry.

With attention within the industry focused upon the transportation problem in all its aspects it may well come about that an effort will be made, thru governmental channels, to find some solution for the present high cost of haulage or city cartage. It may be recalled that the Secretary of Commerce was appalled at the result of a special investigation of limited scope of the cost of cartage which was conducted some time since by the U. S. Census Bureau. This gave a glimpse of the heavy cost of rehandling, duplication of delivery service, etc. The head of Uncle Sam's business annex expressed the wish that some means could be found to cut the excessive cost in this quarter. Now with its newly organized Industrial Co-operation Service, succeeding the Conservation Section of the War Industries Board, it would appear that the Department of Com-

merce has a suitable agency for not only discovering the secret of the high cost of haulage but for devising a remedy if there can be any remedy.

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Business for United States Foreseen in the Rebuilding of Europe

Rebuilding northern France and Belgium will mean in the latter part of this year a great volume of business for the United States, according to preliminary information which has reached officials of the Department of Labor, provided industry in this country is in a position to accept the orders.

Immediate revival of business activity is essential, however, in the opinion of these officials, if this country is to profit to the greatest extent from the demand for machinery and supplies abroad. Factories are now being transformed from a war basis to a peace production, and most of them will probably be available for full-time peace production in the fall of this year.

In the meantime, however, the building of roads and public works can be undertaken to advantage in order that they may be available for the betterment of industry as a whole in the future. Many cities also have housing problems that are becoming serious, owing to the practical cessation of building during the war.

Figures already obtained by the division of public works and construction development of the Department of Labor give some idea of the seriousness of this problem. Building fell off 200 per cent. in 101 large cities of this country in 1917, as compared with 1916, and for some years before that time it had been subnormal.

Figures for November, 1918, show for 151 of the principal cities of the country an average loss in the amount of building under way of 85 per cent. as compared with November, 1917, which was itself a poor month.

Improved housing and better roads have been brought into rank as among America's chief needs, as a result of the cessation of building activity during the war, and altho the condition is much less serious than in England, the efficient conduct of industry requires remedial action. In many parts of the country the demand has arisen for better roads, particularly surfaced roads.

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Sand-Lime Brick Assn. Meets at Buffalo

The fifteenth annual convention of the Sand-Lime Brick Association was held at Buffalo, N. Y., February 4 and 5, at the Lafayette Hotel.

A very interesting program was presented at this meeting, including papers on the following subjects: "Effect of Size of Sand Upon Strength and Absorption of Sand-Lime Brick," by F. A. Kirkpatrick and F. W. Lapham, presented by Warren E. Emley, of the United States Bureau of Standards, Washington, D. C.; "Tests and Standards," by W. K. Squier, Paragon Plaster Co., Syracuse, N. Y.; "Relative Merits of Wet Pan vs. Tube Mill on Varying Types of Sand," by A. S. Bacon, Tift Silica Brick & Stone Co., Albany, Ga.

A paper was also presented by C. H. Carmichael, of the Winchester Brick Co., Boston, Mass., and John L. Jackson, chairman, Saginaw (Mich.) Brick Co., gave the report of the Tests and Standards Committee, and was followed by Allen K. Walton, secretary, Hummelstown Brownstone Co., Waltonville, Pa., with the report of the War Service Committee on Sand-Lime Brick.

F. H. Chapin Succeeded by H. H. Crowell

One of the most important changes in the brick industry in the Northern Ohio district, is announced effective February, in the resignation of F. H. Chapin, as manager of the Hydraulic-Press Brick Co.'s Cleveland Branch, where he has been in charge for the last ten years. Mr. Chapin resigns to become vice-president and general manager of the International Nitrogen Co. His office, the headquarters of the new company, will be in the Scofield Building, Cleveland.

H. H. Crowell, well known in face brick circles in different parts of the country, who has been appointed in Mr. Chapin's place, comes from the Kansas City office of the Company, in whose service he has been for the past nine years. Mr. Chapin has been with the Hydraulic-Press Brick Co. for the last twenty years, starting in the Minneapolis branch then under the management of S. J. Hewson. For the last ten years he has been in charge of this district.



F. H. CHAPIN

The new chemical company of which Mr. Chapin assumes the management has recently been organized with a capital of \$4,000,000, by big business men of Cleveland. It plans to manufacture and distribute all nitrogen products to industrial and commercial enterprises. Factories eventually will be established in all parts of the country. The first plant will be at Rochester, N. Y. Other officers of the company are B. F. Bourne, of the Bourne-Fuller Co., president, and A. C. Ernst, of Ernst and Ernst, treasurer.

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"Jim" Hogan Dies Suddenly

As this issue is going to press, word has been received that James A. Hogan, secretary and treasurer of the S. S. Kimbell Brick Co., Chicago, well known face brick retailers, died suddenly on Saturday, February 8, of heart failure. More details concerning Mr. Hogan's death will be printed in the next issue of *Brick and Clay Record*.

HOW *to* MAKE *the* GAS PRODUCER PRODUCE

Some Facts and Figures Explaining the Utility of Producer Gas on the Clay Plant as a Cost Cutting Medium Together With Suggestions on Its Economical Operation

By E. W. Knapp

WHILE PRODUCER GAS as a convenient, flexible and cleanly aid to burning clay products has been in use for some time in the industry, there still exists much misunderstanding as to the why and wherefore of its utility as a cost-cutting medium. Every pound of coal contains a certain calorific power. It is certainly untrue to state that any B.t.u. increase is obtained by conversion into producer gas. In other words, the heat value of any coal remains the same whether it be given in the hand-stoked kiln furnace or pushed thru a pipe and consumed as a gas. The value of producer gas rests absolutely in the method of its application, and in the intelligent comprehension of the right procedure in making, transporting, and consuming the volatile constituents of coal.

SAVING DEPENDS ON THE INDIVIDUAL

Producer gas has obtained some wonderful reductions in burning costs, labor saving, and quality of finished product, on some plants, and has proved a complete failure as far as economies effected are concerned on others. In the one case there was an intelligent comprehension, coupled with initiative, while in the latter case a mechanical procedure was followed that resulted in endless delays and trouble. Before any clay manufacturer purchases such equipment, he should thoroly understand just why he is going to use it, and just where and by what means he is going to effect the savings expected, in fuel, time, and labor.

The writer has found that he can get the same results with producer gas in a continuous kiln, on either brick or hollow ware, with exactly one-half the amount of coal necessary in hand firing a round down-draft kiln, and a like saving in time of burning. This saving of fifty per cent. in fuel and labor, is due in part to the regenerating principle of the continuous kiln, and in part to the saving in time and fuel during the oxidizing and maturing stages of a burn by the intelligent application of producer gas as a source of heat, coincident with its combustion inside a closed chamber, where the correct amounts of air and fuel are under absolute control. Of course, the personal equation, in the case of a hand-stoked furnace, is responsible for a huge tonnage of wasted fuel, but even the most conscientious of kiln burners cannot approach ideal conditions in firing by hand. If coal burned without clinker or ash being formed, it might be done, but we have never yet found such a grade of fuel obtainable in the industry. After having used and realized the great benefits of gas in kilns, to return to hand fired methods reminds one of a man trying to climb an icy hill, he goes forward three steps and slips back four; after a while he makes the top, but it is pretty discouraging for a regular pastime.

PRODUCER HOUSE MUST BE EFFICIENT

In equipping any plant with producer gas, the first consideration should be the proper kind of a gas-making plant and in selecting a location for same, suitable for efficient conveying of gas together with cheap handling of fuel and ash. In concentrating all of the fuel, the ashes, the clinkering, and the hard work of burning at the producer, it warrants considerable study and experience to make the producer house efficient, to make the work as pleasant and agreeable as possible, since it takes time and money to train any man to handle this end to advantage, and should not be the dumping ground of the floating element of a brick yard.

In the experience of the writer, the hand-stoked, six foot, steam pressure, water sealed producer, is the correct one for a clay plant. While the suction type is being used in many places, we have noticed that the burning time was in some cases even longer than a good round down-draft kiln and the labor involved considerable and irksome. The larger sized, mechanically operated producers, make more gas per unit but do not save enough in labor on the average clay plant installation to warrant their higher initial cost and the cost of operation and repair.

To be efficient, producer gas must be maintained at a constant temperature, or practically so. When the gas becomes too hot (above 1100 deg. Fahr.) it deposits soot or begins to dissociate, and when it goes below 900 deg. Fahr. it again will dissociate, depositing tar. This naturally forms large deposits in the flues or pipes, causes trouble with choked and sticking valves, and requires a shut-down and a burn-out, a loss in time of from twelve to twenty-four hours. Many operators have a mistaken idea that the hotter they convey the gas to a kiln the more heat is utilized, but this is very wrong. The producer is not a firebox, but a gas-making plant, and to realize full efficiency, the volatile constituents of the coal consumed must be transported in gaseous form to be utilized in the kiln. It is by this means that the long flame is obtained and high local temperature in the firebox prevented.

INSTALLATION OF SOOT-TRAPS

Much time may be saved in burn-out periods, and the intervals between same prolonged, if provisions are made to trap and remove the soot that invariably accumulates at the point where the producer discharges into the main gas flue leading to the kilns. It is here that the soot generally deposits, while the tar deposits at the kiln end, owing to a cooling off as the gas is conveyed for some distance from its source. These soot traps are simple and easy to install, consisting of a bricked-in reservoir beneath

the gas flue separated from same by a slide damper. These dampers can be pulled out at intervals to drop the accumulation of soot, the latter being removed after the damper has again been in place and gas tight. The opening for removal of soot is opened and closed by daubed brick work similar to a kiln wicket. (A detailed description with illustrations of a good type of producer plant may be found in Volume XVIII of the Transactions of the American Ceramic Society.)

SUGGESTIONS ON GAS PRODUCER OPERATION

Concerning the operation of a gas producer, a few suggestions may be given here, but the eventual success and economy of operation rests with the intelligent interpretation and initiative of the operative to suit his own peculiar conditions. While it is true that any kind of fuel will make producer gas, it is not true that so many thousand brick can be burned with so many tons of coal in any kind of a kiln or with all classes of fuel. Any successful burner knows that he can effect greater economy in fuel, labor and time with a resultant better kiln of ware with some kinds of fuel than with others. The same holds true with the use of producer gas. The coal should be lump size, burned to a flaky ash with not too great a tendency to clinker to be economical, and of course be a soft rather than a hard bituminous variety, with a high volatile content. The firing or charging should be regulated by the burner and done at regular periods, generally every twenty minutes. The volume of gas required should be controlled as much as possible by increasing or reducing the amount of coal per charge rather than by changing the time of charging. The amount of steam and air forced into the producer must be regulated to suit conditions. It may vary from sixty pounds of steam, with two inches of air pull on a "U" tube, to fifteen pounds of steam, etc. The pressure of steam should always be regulated by a steam regulating valve between boiler room and producer house, to prevent fluctuations in boiler pressure from affecting producer conditions, in addition to the regulation obtained at the "blowers." The fuel should be distributed uniformly and the bed watched for hot spots or holes. The pokering is done about every four hours on some plants, and on others after each charge of coal, the latter procedure giving better results with less clinker trouble.

Where a high class gas coal is obtained, most of the ash and clinker can be cleaned out of a producer under water. This should be done regularly so as not to allow the producer bed to build up and choke the opening into the gooseneck or gas discharge flue of the producer. This gooseneck will become choked with soot after from one week to two weeks, when it becomes necessary to burn and remove the accumulation. This is accomplished by burning down all producers and distributing coal charges in such a way that they will all "come hot" together. This will take about two hours. Add steam pressure to raise the kiln under fire about twenty-five degrees. Try lifting balls in poker holes until gas lights immediately without popping. Remove three balls and lift safety valves in gooseneck, taking care that gas continues burning, and admitting air slowly until ignition occurs. The steam is shut off and kiln dampered so that the gas is "kicking back" from kiln to producer. The soot may then be safely pushed back into the producer or hoed out and removed, producers again charged, goosenecks closed up, and the burning proceeds as before. If this operation is conducted properly, no loss in time of burning results.

When a grade of coal is used that gives troublesome clinker in the producer, or thru negligence in proper pokering, a troublesome clinker formation occurs, which must

be broken up with a bar and is too large for removal thru the water pans, the necessity arises of opening the clean-out doors in the side of the producer for its removal. With a little intelligence, this can be accomplished without a loss of time in burning, where more than one producer is used. The producer that is to be cleaned is burned down by adding steam pressure for about two hours and stopping the coal charges. The quantity of gas for the kiln is made up by firing harder the remaining producers. The clinker in the producer is then cleaned out thru the water pans as much as possible, the kiln draft and steam pressure reduced, until the pressure becomes balanced and no explosion occurs with the clean-out doors open. This requires experience and a great deal of care to prevent an explosion. When the balanced pressure is obtained, the burning may proceed during the clean-out time. The clinkers may then be broken up and pulled out, the ash bed loosened and leveled to the height of the doors, and the producer put back into service again.

LOSS OF TIME IN BURNOUT PERIOD

The burnout or removal of soot and tar from gas conveyors to kiln is accomplished by burning down all producers until gas is all consumed. The steam is then shut off and the gas flue connected to the burnout stack. By admitting air to the flue the soot and tar readily ignite and burn, requiring from twelve to twenty-four hours for removal, depending on the amount accumulated. This burnout period is a dead loss of burning time. Care in gas-making, and removal of soot by the various means enumerated before may prolong the time between burnouts and increase the efficiency and economy of any producer gas-fired kiln. The time between these burnout periods varies on different plants from one week to sixty days.

Much unnecessary trouble and work at the producer house may be eliminated by a watchful and intelligent burner. The burner must first of all be an expert on gas manufacture as well as an experienced judge of heat, draft, and sound burning procedure. When altering any condition at the kiln, he must put the producer in step with same, thereby avoiding future trouble with clinker, soot, and "kick back" of gas. The writer has known burners who could operate a kiln for a year without the necessity of opening clean-out doors in a producer because they were particular concerning the proper use of the poker, while others permitted the gas man to only use a poker a few times a day, but caused endless trouble with clinker formation. The same holds true regarding the adjustment of steam and air pressure in relation to kiln draft. Too high steam pressure causes undue accumulation of soot at the producer end, hot gas and unnecessary clinker formation.

The concentration of fuel and ash at one point promotes cleanliness about the kilns and yard. Carting coal around kilns with team or cart makes interference and trouble for the setters and wheelers, while to the ashes and dirt from the numerous coal piles, are added the invariable mud dragged in by the teams or carts, and a torn up and difficult road for the wheelers when the wagon ruts and accumulated mud freeze in the winter time. All this spells delay and a waste of unnecessary labor. High labor cost makes vital modern efficiency methods that every dollar expended for labor be made to produce.

COMPARISONS OF EFFECTED ECONOMY

In stating the economy effected by the proper application of producer gas in burning we must use comparisons. Kilns vary greatly in efficiency, fuel varies in different localities, while the variation of burning time and fuel tonnage, is affected to the greatest degree by the physical and

chemical composition of the material used for brick or tile manufacture. For the purpose of showing the real basic economy of utilizing producer gas for burning, we may take a plant whose machinery and dryer are capable of producing ten thousand five by eight by twelve hollow tile per day, equipped with a battery of eight thirty-foot, round, down-draft kilns having a maximum holding capacity of fifteen thousand blocks each. Each kiln is equipped with ten furnaces for hand-firing. The tile are made of shale requiring a temperature of 2200 deg. Fahr. for proper development of color and hardness. It has been found by several careful and conscientious attempts that the fastest time possible to burn a sufficiently hard bottom on any of the eight kilns was seventy-two hours after completion of watersmoking; that in less time the block on top would be badly discolored, stuck together, warped, and twisted, and the bottom too soft. Any attempt to hasten the burning time resulted in bad color, due to an uneven flash due to rapid firing and that in order to prevent sorting tile for shipment a longer period of firing was necessary to obtain an even shade of deep red color from top to bottom without flashed tile. The amount of fuel consumed for each burn varied from fifteen to twenty tons of run of mine lump coal, costing three dollars a ton at a neighboring mine, and hauled to the kilns by two teams maintained by the company.

In order to turn over the kilns with sufficient speed to keep the factory output up to capacity, it required a burning force consisting of one head burner, four kiln firemen, one man to cut out clinker adhering to brick work and remove ashes, a bricklayer and a helper were kept busy repairing furnaces, and as a general rule put in considerable overtime to keep ahead of the kiln fireman. Four kilns were kept under fire, two water-smoking and two on high fire. The dryers were of the direct-fired type and required a day and a night firman working twelve hour shifts. Owing to labor conditions the head burner was kept busy, finding it necessary to watch day and often at night that the fires were properly handled and the dryers kept hot. Often he relieved the fireman of the hot and heavy clinkering to keep the men on the job and in many cases giving a kiln "hades" in the morning that had been allowed to go back at night in order to get it off on time with the result that flashed ware and considerable sorting expense occurred to keep satisfied customers. Owing to delays caused by furnace repairs, labor conditions, sorting of kilns, etc., the burning cannot always keep up to schedule, so that it becomes vital that the company must either build more kilns, requiring additional labor, or find a cheaper and better burning system.

KILN FORCE PAYROLL

The payroll aggregate for this force to turn over kilns enough to keep the factory to capacity for the two weeks pay period, would be at a minimum, under prevailing labor conditions:

Head burner, \$75, two day kiln firemen, each \$60, two night kiln firemen, each \$60, dryer fireman, day \$60, dryer fireman, night, \$60, ash man, \$40, bricklayer, \$60, bricklayer's helper, \$40, two teams \$168, making a total of \$743. The fuel cost for the eight kilns burned in this period would be \$400, making a total cost of \$1,143, not counting the fuel for the dryer.

In an endeavor to get away from this expense and to better the quality of ware, this plant was equipped with gas for burning and drying. A metal pipe or duct, lagged with insulating material, was erected over head, connecting the string of eight kilns for the purpose of watersmoking and preheating from cooling kilns. With this equipment, the

burning and drying force was reduced to the head burner and night burner, a day and night producer man, and one team. The rapid clearing of the kiln with air and fuel admitted to a closed firebox under absolute control, brought an even top and bottom in sixteen hours, since the water-smoking and preheating from finished kilns, furnished plenty of heat, with no labor or fuel expense, to prepare the kiln for high fire; and the easy maintenance of maturing heat, without smoke or danger of twisted, stuck or deformed tile, enabled finishing in another sixteen hours. A total of thirty-two hours, as opposed to seventy-two previously, exclusive of watersmoking.

COSTS UNDER NEW SYSTEMS

Burning without smoke in the kiln at any stage of the burn, brought out the deep natural color of the ware and eliminated any necessity of sorting. The fuel required per burn dropped from twenty to seven tons, while the furnace repairs and clinker troubles at the kilns were dispensed with entirely. The burner and his assistant, relieved of the heavy firing and clinkering, concentrated the attention upon getting results, with a keener interest than heretofore in making every kiln a perfect return. Due to the shortening of burning time, and the rapid cooling possible under the regenerative system, the eight kilns were found ample in capacity to keep the factory on capacity runs every working day. The total cost under the new system for labor and fuel in burning would be: Head burner, \$75, night burner, \$60, day producer man, \$60, night producer man, \$60, one team, \$84, making a total of \$339, fuel \$200, total \$539. This shows a saving in two weeks of \$604, and a better class of finished product. Numerous small incidental expense was done away with about the kilns and yard.

* * *

Pacific Coast Refractories Manufacturers Plan Organization

What promises to be a most successful effort to organize an association of manufacturers of fire brick and other refractories on the Pacific Coast will have its "trial heat" when, on February 17 and 18, a meeting of refractories manufacturers operating in California, Oregon, Washington and Idaho will be held in San Francisco. The meeting has been called by John T. Roberts, manager of the Stockton (Cal.) Fire & Enamel Brick Co. Mr. Roberts is a member of the War Service Committee on Refractories and the problems connected with the industry, many of which were given unusual emphasis during the war, were strongly impressed upon him in the course of his work as a member of that committee.

Many of the conditions surrounding Pacific Coast manufacturers are different from those which are met in the same industry in the Middle West and East. Different standards govern the shapes and the methods of figuring equivalents. This was so plainly shown that Mr. Chas. Catlett, while a member of the late War Industries Board, particularly requested Mr. Roberts to do what he could in the way of organizing an association of refractories manufacturers operating west of the Rockies.

The movement to organize a Far West Refractories Manufacturers' Association has the support of the Refractories Manufacturers' Association and it is understood that members of the coast organization will have practically all of the privileges of membership in the national organization, without having to attend any of its meetings or to in any way contribute to its treasury.

Invitations to the San Francisco meeting have been sent

to the American Fire Brick Co., Spokane, Wash.; N. Clark & Sons, San Francisco, Cal.; Coast Fire Brick Co., Richmond, Cal.; Denny-Renton Clay & Coal Co., Seattle, Wash.; Far West Clay Co., Tacoma, Wash.; Gladding, McBean & Co., San Francisco, Cal.; Idaho Fire Brick Co., Troy, Idaho; Ione Fire Brick Co., San Francisco, Cal.; Livermore Fire Brick Co., Niles, Cal.; Los Angeles (Cal.) Pressed Brick Co.; Moscow (Idaho) Fire Brick Co.; Pacific Face Brick Co., Portland, Ore.; Pacific Sewer Pipe Co., Los Angeles, Cal.; Richmond (Cal.) Pressed Brick Co.; St. Louis Fire Brick & Clay Co., Los Angeles, Cal., and to the Stockton (Cal.) Fire & Enamel Brick Co.

An effort will be made to include in the membership of the new association all manufacturers operating in California, Oregon, Washington and Idaho whose product comes within the definition of "refractories" as given by the Priorities Committee of the late War Industries Board—that is, fire clay brick and shapes, silica brick and shapes, magnesite brick and shapes, bauxite brick and shapes, chrome brick and shapes, dead-burned ganister, dead-burned magnesite

and dead-burned dolomite. This will admit to membership those miners and shippers of California magnesite who calcine their material before loading it on cars.

* * *

Not Considering Increase In Basis of Rates

Walker D. Hines, director general of railroads, authorizes the following:

There is no foundation for the report that the Railroad Administration has given or is giving any consideration to any increase in present basis of rates.

The results of operations for the year will be largely dependent upon the volume of traffic. If the volume of traffic should be as large as last year, it is believed the operating income would be sufficient to pay the rental. As soon as any reasonably satisfactory conclusion as to the probable volume of traffic can be formed the public and Congress will be given the best possible estimate of the prospects for 1919.

HIGHWAY TRANSPORTATION *to be* CONSIDERED *at* GOOD ROADS CONVENTION

THE NINTH American Good Roads Congress and the Sixteenth Annual Convention of the American Road Builders' Association will be held at the Hotel McAlpin, Broadway and 34th St., New York City, February 25, 26, 27 and 28, 1919.

Many problems of the most vital interest and importance are at the present time confronting the road builders of the country. It is proposed therefore, to bring together those most prominently identified with highway construction, transportation and maintenance for the purpose of considering the questions of the hour.

The program which is now being prepared for the eight sessions of the congress will be devoted to the consideration of highway transportation and the administration, financing, construction and maintenance of national, state, county and municipal highways. Papers by prominent highway authorities and reports on live topics by several committees will be presented for discussion. The general plan contemplates devoting February 25 and 26 to the presentation and discussion of papers and February 27 and 28 for the consideration of reports to be submitted by several committees. The business session of the Association will be held on the afternoon of February 28 and the annual banquet on the evening of the 26th or 27th. It is proposed to show motion pictures pertaining to highways on two evenings during the congress.

LIVE SUBJECTS TO BE DISCUSSED

Among the subjects which will be presented for discussion are the following:

National Highways and Federal Aid for State Highway Improvements.

Relation of Highways to Railways and Waterways.

Efficient Methods of Contracting for Highway Work During the Reconstruction Period.

Efficient Methods of Promoting Highway Bond Issues.

Efficient Methods of Drainage for Different Geological Conditions.

Foundations for Heavy Horse-drawn and Motor Truck Traffic.

Methods of Maintaining Highway Systems Prior to Construction by the State or County.

Economic Utilization of Labor Saving Machinery.

Cost Keeping for Highway Contractors.

Street Systems, Their Relation to Highways Outside of Urban Districts.

Present Status of Brick Pavements Constructed with Sand Cushions, Cement Mortar Beds and Green Concrete Foundations.

Committees will submit reports on the following topics:

Regulations Covering Speed, Weight and Dimensions of Motor Trucks.

Methods of Financing Highway Improvements for States, Counties and Towns.

Civil Service Requirements for Highway Engineering Positions.

Sources of Supply of Unskilled Labor for Highway Work.

Convict Labor on Highway Work: Organization, Administration, Camps and Cost Data.

Reconstruction of Narrow Roadways of Trunk Highways with Adequate Foundations and Widths for Motor Truck Traffic.

Guarantees for Pavements on Roads and Streets.

ROAD MACHINERY EXHIBITION IN 1920

Next year it is proposed to hold in connection with the convention the most complete and comprehensive exhibit of road machinery, equipment and materials ever seen. At the time, however, it was decided to hold this year's convention in New York City, the war was still in progress and it was felt to be out of the question to have an exhibition on anything approaching a large scale. It was therefore decided to limit this feature to the facilities afforded in the Winter Garden on the top floor of the Hotel McAlpin.

The sessions of the convention will be held in the ballroom, which is also located on the top floor and adjoins the Winter Garden.

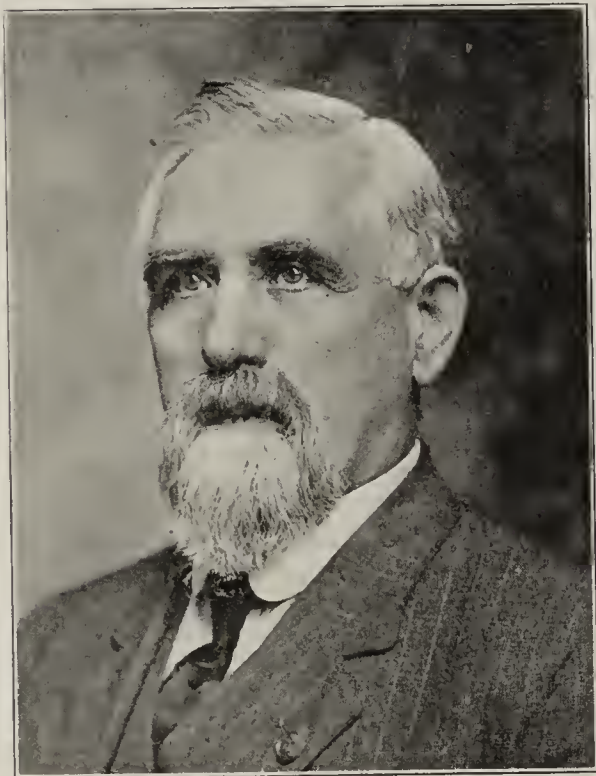
NINETEENTH ANNUAL HELD *by* WISCONSIN CLAY MEN

Milwaukee Meeting Sheds Light on Problems of Labor and Freight Rates Which Are Affecting Vitally the Clay Products Manufacturers of the Badger State

FOR SOME REASON or other there are a great number of clay products manufacturers in Wisconsin who are failing to lend their support and co-operation to the Wisconsin Clay Manufacturers' Association. It is obvious that these men do not realize the advantages of meeting with their fellow manufacturers to enjoy their good fellowship and exchange of information.

There is not a manufacturer in Wisconsin who is not interested in the subject of railroad rates at the present time, yet but few of them are contributing aid in securing a better condition in traffic problems. The slacker will be largely responsible for the stagnation of his own business if he does not soon wake up. If you are a Wisconsin clay man and did not attend the annual meeting at the Republican House, Milwaukee, on January 30 and 31, write to your officers and offer them your cooperation.

The report of the secretary and of the treasurer of the association showed the finances to be in good condition.



JOHN RINGLE

After the above reports were given, John Ringle, of Wausau, president of the association, said: "It is scarcely necessary to allude to the conditions pertaining to the manufacture of clay products during the past year. Neither does it seem wise at the present time, to adhere to the

habit of judging the future by the past as a guide for business prospects.

"We are grateful that the so-called period of reconstruction has arrived and are looking forward with confidence to favorable conditions. We have met at a period in our history, when men in all lines of business feel the need of consultation and advice; and when the business man who can gauge the future with a clear vision is in demand. This fact, and the consideration of subjects primarily applicable to our industry in Wisconsin, is liable to stamp our present meeting as most important."

Mr. Ringle went on to tell of the meeting held recently at Atlantic City under the auspices of the American Chamber of Commerce, where great confidence was expressed for business in the coming period. It was also said at the meeting that labor prices were not liable to be reduced to that figure which existed before the war.

COMPREHENSIVE COST SYSTEM A NECESSITY

"That means," Mr. Ringle said, "in the manufacture of products such as ours, where 90 per cent. of the cost of manufacture is for labor, no reduction in cost—no lessening in price, unless it be thru a larger volume of production and better service. It means also for every manufacturer the necessary maintenance of a comprehensive cost system to discourage ruinous competition.

"How will these conditions appear to the prospective builder who has been waiting for cheaper material? We must convince him that the price of brick and tile is not a war price, and that clay products are the best and cheapest building material. Two millions of our young men, returning from Europe, will give evidence that clay products are the most serviceable and permanent.

"The activities of the association were necessarily limited. The necessities of the Government required regulation of industries by the Fuel Administration, the War Service Committees, and the War Industries Board which it was the duty of all to comply with.

"In regard to the increase in freight rates however, we deemed it our duty to protest, because the effect of the order was to make the increase more than 25 per cent. on Wisconsin clay products which is higher than was evidently contemplated by the Government railroad directors."

PROTEST MADE ON INCREASED FREIGHT RATES

After reading the protest drawn up by the secretary, which was practically embodied in the resolutions later drawn up on this topic, Mr. Ringle went on to discuss the subject, saying: "The uniform increase of freight rates on clay products of two cents per 100 lbs. without regard to distance, we consider unjust to the Wisconsin industry and consumers, because brick and tile is essentially a local product and gen-

erally subject to short haul. Perhaps 50 miles is the average distance on which rates were increased 50 to 100 per cent. This has resulted in the consumers of our products being required to pay a much higher increase in freight rates than the 25 per cent. which was evidently generally contemplated. This increase has amounted to perhaps \$50,000 during the season and in case the rate so fixed is continued it will no doubt have a deteriorating effect upon consumption.

"It seems to me to be eminently proper at this time for the association to ask the proper authorities for a modification to the extent at least so the increase shall not exceed 25 per cent. above the rates fixed by the Wisconsin Commission and previously in force.

"It is no doubt generally known that the Common Brick Manufacturers' Association of America was organized during the past year. Since the Wisconsin Association is largely interested in common brick and some of our members have become associated, the subject may be properly discussed.

"If this association succeeds in solving the long discussed problem of placing common brick in its legitimate position in the public mind and in the building world it is an accomplishment much desired not only for the manufacturers but also for public interest. We realize that it is not the proper policy for manufacturers of the best building material to place the light so as to be unseen by the public.

"We are meeting in annual convention for the nineteenth time, and those of us who have attended the meetings are well satisfied that we have derived much profit therefrom. Much good has been accomplished by this association for the industry in our state, and much more work is necessary.

"While it is true that clay products manufacturers as a rule are not troubled by the payment of an excess profits tax, we feel that aside from individual interest, the work of our association is in the interest of public welfare. We are developing a natural resource of our state."

A few more comments on the demand that is going to come for drain tile and brick and on the purpose of the association, ended the president's address which was heartily received.

LABOR PROBLEMS DISCUSSED

A paper entitled: "Labor Problem in the Clay Industries," was to have been presented by Oscar Wilson, of Menominee, but owing to his absence the paper was read by Secretary Weidman. In the discussion which followed the reading of this paper it is evident that everyone agreed that in the future labor must be taken into the confidence of the employer to a greater extent than heretofore. "Labor," said one of the men present, "is estimated to represent from 60 to 90 per cent. of the manufacturing cost and while we know how to handle our machinery and equipment we fail to give the proper attention to the problem of labor which represents a larger item in manufacturing costs."

Oscar Zimbal, of Sheboygan, followed with an interesting paper on "Artificial versus Open-air Drying." This paper is reproduced herewith in its entirety.

ARTIFICIAL VS. OPEN-AIR DRYING

"There are and always will be several forms of dryers, both natural and artificial, to meet the many and varied conditions of brick drying.

"Tho the artificial dryer is coming into more general use every year, yet the time will probably never come when it will entirely supersede the natural means of drying by the air and sun.

"My contention has always been to use open air drying to the greatest extent possible, until the output reaches such an amount that this becomes impracticable.

"Our main object, of course, in investing money in new

machinery and appliances, is to lessen cost of production, or improving our ware, neither of which can justly be claimed for the artificial dryer.

"In the smaller plants where an artificial dryer would not be a profitable investment, a considerable improvement could



SAMUEL WEIDMAN

be made, with small outlay, in the drying arrangements, and in the manner of handling the brick, so that the time of drying and the expense of handling and damage from storms can be so reduced, as to make the business yield a larger profit.

"First permanent sheds with roofs that can be easily and quickly opened to the sun and wind and closed to the rain, should be constructed. In addition to having permanent sheds, it can generally be arranged at small outlay to handle the brick from the machine to the drying sheds and thence to the kilns, in large units, making use of a special truck or lifting car, thereby making a considerable reduction in labor bills. For open-air drying we should have ample room, to enable us to run continuously for at least ten to fifteen days before all available space is filled. Unless drying conditions are abnormally adverse, this will enable us to run without shut-downs thruout the summer months.

COST OF OPEN AIR DRYING SYSTEM

"The cost of constructing an open-air drying system on this basis, and an artificial dryer of like capacity, is about equal. The cost of drying brick with artificial heat is an unknown amount, stated to be all the way from fifteen to seventy-five cents, or even one dollar per thousand. In our own case we find it to be about fifty to sixty cents per thousand.

"The cost of drying with the open-air system with the exception of a very small amount of labor for covering and uncovering, is nothing. We also find that the loss from broken brick is about the same with either method.

"From the foregoing remarks you might come to the conclusion that the writer is altogether opposed to artificial dryers. This, however, is not a fact as I realize that open

air drying has narrow limits both as to quantity and time of operation.

"When the time comes that you must decide between the many dryers on the market, I think it is money well spent to consult an efficient drying engineer, preferably one that has no dryer to sell.

"Now, it is true that no one knows all about drying brick, or ever will, or even as much as he ought to know, in order to design a dryer that will give the best results in every special case. The trouble comes often not so much from inherent defect in the dryer itself as from installing it under conditions for which it is not adapted, and the man selling a certain dryer would not be considered a good salesman if he did not try to persuade every prospective customer that the very best dryer for his use is the one that he, the salesman, has the privilege of presenting. The salesman satisfies his conscience in many cases by the consideration that if he did not make the sale some other fellow would, and perhaps with no better apparatus. Next to burning, there is probably no subject of more general interest to brick manufacturers than that of drying their product, and there is still a large field for investigation along this line."

BANQUET AN ENJOYABLE FEATURE

On Thursday evening, January 30, all men present attended the annual banquet and following the banquet took part in the round-table talks which included many topics of interest. A very good talk on the plans and purposes of the Common Brick Manufacturers' Association of America was given by C. P. Mertens, secretary of the organization. He showed the many advantages to be gained by becoming a member of this association and his listeners became so enthusiastic over the proposition that it is believed every one of them will soon become a member.

One of the interesting sidelights of this banquet was to watch the two "youngsters" of the association, Mr. Meadows (eighty-six years of age) and Mr. Stiel (not much younger) bend their bearded heads together and tell of experiences back in the "80's".

THE MARKET FOR DRAIN TILE IN WISCONSIN

On Friday morning a paper prepared by Prof. E. R. Jones, of the University of Wisconsin, entitled: "The Market for Drain Tile in Wisconsin" was read to the convention by Secretary Weidman. Professor Jones, whose paper dealt mainly with stimulating tile trade, wrote: "Since my last address to the Wisconsin Clay Manufacturers' Association we have been steadily tiling wet lands in Wisconsin, yet we have not made much of a dent in the total amount of tiling to be done.

"On former occasions I have pointed out the need of more drain tile in Wisconsin. That same need still exists. More than half of the tile used in Wisconsin continues to be shipped in from outside of the state. For the sake of the farmers of Wisconsin who would profit by lower freight rates on tile, I plead for the manufacture of more tile in Wisconsin. Incidentally, the Wisconsin tile manufacturer would have the advantage over the Illinois tile maker in that he could get his product into the hands of Wisconsin farmers at a lower price because of the lower freight rates.

"Perhaps the reason why Wisconsin tile manufacturers have been slow to increase the tile output of their plants is that they are afraid of poor market conditions. I would like to emphasize in this paper the advantage to be gained by a close co-operation between the tile manufacturers and the retail lumber dealers of Wisconsin. Almost every lumber dealer in Wisconsin would handle tile if his interest were aroused.

Recently at a convention in Madison I pointed out to the retail lumber dealers how they were missing their opportunity unless they developed a drain tile business. You, as tile manufacturers, can help them develop such a business.

The dealer must be educated as to methods of handling tile. I know of several lumber dealers who handle about a carload of tile a year. The tile occupy valuable space in the lumber yard and to pay for the trouble involved, dealers often charge as high as six cents a foot for 5 inch tile. This gives the farmer the impression that tile are very expensive and they buy very sparingly.

"I know another dealer who is handling a great many tile with profit to himself and to his community, yet he never has more than 1,000 tile of assorted sizes in his yard at one time. When a farmer comes to him and wants to buy 1,000 five-inch tile he sends him back home to look the ground over once more to see if he could not use 2,000 with profit. Then he sends him to find a neighbor who needs 2,000 tile and they combine the order, making a minimum carload of it. The dealer orders the carload of tile and when it arrives he telephones the farmers to come in after them. He lets the farmers know just what the tile cost him and charges them \$10 extra for his trouble. He handles 40 to 50 carloads of tile a year in this way without touching the tile and without having any capital tied up in them. He has a surveyor's level and sends one of his men out into the country to run preliminary levels for farmers to help them decide how many tile they need. We need more dealers like this in Wisconsin and I hope the association will help develop them.

"I want to call your attention once more to my firm belief that five inch tile are the smallest that should be laid even for laterals. Until we get our farmers educated to this, we had better continue manufacturing a few 4 inch tile, but by all means quit manufacturing three inch tile."

REPORTS OF SPECIAL COMMITTEES

Following this paper the reports of the special committees were made. The resolutions committee drew up one resolution favoring the formation of a league of nations which the convention was asked to adopt. A second resolution was in the form of a memorial to be sent to the relatives of the late George Schwarz who was formerly prominent in the activities of this association.

Another resolution concerned the freight rates and was as follows: "Whereas, by reason of the General Order No. 28 of the Director General of Railroads, effective June 25, 1918 and now in force, the interstate freight rates on brick were increased two cents per 100 pounds without regard to distance. And whereas, said increase is greatly in excess of the increase of interstate and class rates and of other commodities, especially so far as it effects the short haul to which our product is chiefly subject, thus increasing said rates approximately 100 per cent. on a 10 mile haul, 75 per cent. on a 30 mile haul and 43 per cent. on a 100 mile haul, And whereas, the effect of said excessive freight rates is destructive of our industry in Wisconsin, causing stagnation in the building line, Therefore, be it resolved, that the Wisconsin Clay Manufacturers' Association, in convention assembled, respectfully and urgently makes petition that the increase in freight rates on brick as established by said General Order No. 28 be modified, to the extent at least of 25 per cent. of the distance rates established by the Wisconsin Railroad Commission and in force prior to said General Order No. 28.

OFFICERS RE-ELECTED

The officers suggested by the nominating committee were elected by acclamation and were the same as those in office during the past year, namely: president, John Ringle, Wau-

sau; vice-president, S. Gunther, Port Washington; secretary, S. Weidman, Madison; treasurer, Erwin Fricke, Manitowoc.

Those attending the meeting were: John Ringle, Wausau; Louis Hyland, Stanley; L. Haigh, Bucyrus, Ohio; A. W. Hilker, Racine; M. DeBoer, Milwaukee; G. M. Brown, Truar; F. L. Steinhoff, *Brick and Clay Record*, Chicago; John J. Moroney, Chicago; Oscar Zimbal, Sheboygan; Erwin Fricke, Manitowoc; Ed. Fricke, Manitowoc; A. O. Wachter, Sheboy-

gan; S. Weidman, Madison; Sam Gunther, Port Washington; J. F. Chamber, Plymouth, Ohio; Elmer Leach, Manitowoc; W. H. McCarthy, Chicago; Anton Stiel, Jefferson; J. E. Randall, Indianapolis, Ind.; Wm. Meadows, Burlington; G. P. Willett, Bristol; J. W. Lazear, Chicago; Geo. Meadows, Burlington; D. C. Haeger, Aurora, Ill.; George E. Burnham, Milwaukee; Chas. E. Paeske, Milwaukee; J. G. Toepfer, Milwaukee; G. E. Gilbertson, Chicago.

NEW JERSEY CLAY MINERS *and* MANUFACTURERS ASSOCIATION HOLDS IMPORTANT MEETING

THE NEW JERSEY Clay Miners' and Manufacturers' Association, composed primarily of men interested in the clay and affiliated industries in Middlesex County, held its annual meeting at the New Packer House, Perth Amboy, on Thursday evening, January 30. For some months past, the association has omitted its regular monthly meeting, due to general conditions and the difficulty in securing a suitable attendance with so many members engaged in war work or equally important enterprises requiring undivided attention, and accordingly this meeting served as a get-together gathering for cooperation and coordination during the coming year. About 34 members were in attendance, representing a wide diversity in the different clay industries of this section, ranging from the mining of the raw material to the manufacture of floor and wall tile, ceramic art ware and chemical stoneware.

The meeting was opened by an enjoyable dinner in the main dining room of the hotel, with president L. M. McHose presiding. To relieve the monotony of "all business," diversement was offered in the form of a musical program with singing and dancing. Following the repast, a short business session ensued, with the election of officers for the present year. In opening this session, President McHose made a few appropriate remarks regarding the organization, explaining that it was designed primarily for those engaged in the clay industries to become better acquainted with one another to mutual and profitable advantage. He said that the spirit of the association had been dormant for some time past due to the world war and its effect on those in the ceramic industries, but that the future looked bright, and with it the organization's, and which from now on would quite naturally assume greater activities. Chairmen of various committees were called upon to make their reports, including a reading of the financial statement by the treasurer, August Staudt.

INSURANCE RATES COVERING LABOR

R. H. Minton, of the General Ceramics Co., Keasbey, on the committee regarding the matter of insurance rates covering labor, explained the difficulties evidenced in having existing compensation rates reduced in accord with the present state laws, and the unsatisfactory outcome of meetings up to the present time with the Compensation Bureau. He pointed out that with an original rate of \$1.40 the advance after the Compensation Law was enacted resulted in a rate of \$3.19, and which thru hard work and energetic efforts has now been reduced to \$2.16. He said that the losses were few in the clay working industry, only one accident having occurred at the plant of the General Ceramics Co. during the past year, and that a fair rate with the present high wages for labor would be in the neighborhood of \$1.00. In connection with the advance in wages, it was shown that the average

was 16 $\frac{3}{10}$ cents an hour in 1914 when the low insurance rate was in force. It advanced in the years following to 17 $\frac{7}{10}$ cents in 1915; 21 $\frac{4}{10}$ cents in 1916; 31 $\frac{1}{10}$ in 1917; and 43 $\frac{1}{10}$ in 1918, with present average of about 42 cents an hour. It is hoped to reduce the rate to reasonable amount at an early date in order that those in the clay working industries will not be taxed far in excess of what might be considered a fair, normal charge.

ALL OFFICERS RE-ELECTED

John Pfeiffer, of Henry Maurer & Sons, Maurer, head of the nominating committee of the association, when called upon to submit his report, said that the present officers had not only been highly satisfactory, but had performed their duties with zeal and fidelity, and accordingly it was suggested that all officers be reelected for the coming year. This suggestion received the unanimous approval of those assembled, resulting in the reelection of the following officials to office: L. H. McHose, McHose Clay Co., Perth Amboy, president; F. R. Valentine, M. D. Valentine & Brother, Woodbridge, vice-president; August Staudt, president, Perth Amboy Tile Works, Perth Amboy, treasurer; and M. M. McHose, McHose Clay Co., secretary. With a few appropriate remarks President McHose accepted the reelection to office, expressing his appreciation of the honor so accorded. He said that the clay working industries of the state employed over 7,000 men and represented millions of dollars in investment.

The first speaker of the evening following the business session was Professor George H. Brown, director the Department of Ceramics Rutgers College, New Brunswick, who spoke on the subject of "Recent Developments in Ceramics." In this were included both the clay and silicate industries with affiliated lines. In his opinion the development of the optical glassware industry in this country has been one of the most important achievements; as is generally known, before the war the United States was dependent upon the production of Germany, France and other European countries for high-grade commodities in this line. He pointed out that the manufacture of optical glass in this country was now sufficient to supply all immediate needs, and that during the period of the war the domestic product was used by the Government in connection with range finders, telescopes, and the like. Continuing, Professor Brown made reference to the development of glass pots from American clays, used in the melting of glass; chemical glassware, chemical porcelain, including the manufacture of sparg plugs for high-powered gasoline engines. In speaking of refractory porcelain, he made mention of the production of pyrometer tubes, and for which heretofore this country has been dependent upon Germany. As a last item in clay development during the period of the war, reference was made to the use of

overburned clay for concrete aggregates for ship construction, employing clay commonly known as "swell bellies." He said that clay of this nature was now being used for the construction of about seven or eight vessels in southern shipyards, while a recent development is the use of like material for concrete mixtures for building construction, clay of this nature, he stated, now being produced in a rotary kiln at Hannibal, Mo.

In conclusion, Professor Brown brought out that if such marked advance could be made in the clay working industries in war times, why should not this same progress be manifested in peace times? He for one hoped that the development and investigation work would proceed as tho of utmost necessity today, similar to the spirit which prevailed during the war. He also brought out that many of the auspicious results were derived thru cooperation of the technical and scientific laboratories in different parts of the country, showing conclusively the value of mixing theoretical with practical work for utmost attainments.

A SURVIVAL OF THE FITTEST

It was set forth by Abel Hansen, president of the Fords Porcelain Works, Perth Amboy, a succeeding speaker, that Middlesex County was the largest in the state in the mining and manufacturing of clay and clay products. He remarked in a joking way that Mercer County had "stole a run" on the Raritan River section in the development of its ceramic work at the School of Industrial Arts at Trenton, and that certainly a similar school should be maintained in Middlesex County, and this at Rutgers College. Reference was made to the meeting of the executive committee of the New Jersey Clay Workers' Association, set forth on another page in this issue of *Brick and Clay Record*, and the decision arrived at at this gathering to arrange for a suitable number of students at the Rutgers school. He pointed out that it was planned to have about 24 or 25 manufacturers send one of the employes from each of their plants to the college for a course of instruction, and explained how valuable it would be for these young men to be able to receive thoro instruction in ceramic work. He said also that it was planned to ask the State Legislature for an appropriation for a new ceramic school at New Brunswick at an early date, in all likelihood next fall.

The remarks of Mr. Hansen were ably seconded by John Pfeiffer, Henry Maurer & Sons, who also made reference to Professor Brown's address, and the value ensuing thru intensive investigation work. He said that unquestionably after peace was declared, active foreign competition could be expected, and that with America now in a dominating position every effort should be made to maintain this status, for in the end it would be "a survival of the fittest." He remarked that those engaged in the clay working industries must be awake,—that they must be organized,—and must get together for mutual and general benefit to bring about lasting success and a firm position at the top among all other nations.

SEEK APPROPRIATION FROM STATE LEGISLATURE

Succeeding speakers were State Senator Thomas Brown, Assemblyman Andrew J. Wight, and County Prosecutor Joseph E. Stricker. Senator Brown said that there was nothing of greater interest to mankind than the development of the clay industry, and that this industry as a whole is one of great diversification. He pointed out that the progress of man or the source of ability goes hand in hand with his intelligence, and that the development in the clay industries has been brought about by the ability and ingenuity of those engaged in this line of work, resulting in great benefit to

mankind in general. Taking up the remarks of Mr. Hansen relative to the proposed intention to ask the Legislature for an appropriation for a new ceramic school at Rutgers College, the speaker declared that not one moment should be lost in putting forth this claim for this appropriation, and that both the Legislature and the Governor should be appealed to in this connection. He said that there was only one reason that the state up to the present time had not made any move in this direction, and that was because the case, which has a good argument, had not been properly advanced in the right direction.

Senator Brown's remarks on this point were later supplemented by Mr. Wight, who assured those present that any move of this kind which came before the Legislature, and which appeared right, would have his hearty support.

The meeting adjourned shortly after 11 o'clock. Among the familiar faces missed was that of Charles A. Bloomfield, of Metuchen, who found it impossible to be present owing to an equally important meeting of his Masonic Lodge on the same evening, and which he had previously arranged to attend. Those present at the meeting were: R. L. Clare, Federal Terra Cotta Co., Woodbridge; H. W. Moore and Ernest Dabbe, Atlantic Terra Cotta Co., Perth Amboy; E. C. Dalrymple, Raritan Ridge Sand Co., Metuchen; Victor W. Main, National Fire Proofing Co., Perth Amboy; Thomas Brown, Perth Amboy; August Staudt, president, Perth Amboy Tile Works, Perth Amboy; John Pfeiffer, Henry Maurer & Sons, Perth Amboy; F. R. Valentine, M. D. Valentine & Brother, Woodbridge; L. H. and M. M. McHose, McHose Clay Co., Perth Amboy; Professor G. H. Brown, Rutgers College, New Brunswick; Abel Hansen, president, Fords Porcelain Works, Perth Amboy; Joseph Stricker, Perth Amboy; C. W. Crane and F. D. Hahn, C. W. Crane & Co., New York; P. C. Buechner and F. M. Crossman, the Crossman Co., South Amboy; F. F. Anness, Anness & Potter Clay Co., Woodbridge; R. H. Minton and Fred R. Whitaker, General Ceramics Co., Perth Amboy; Alfred T. Kerr and R. U. Rue, South Amboy; C. D. Boynton, C. W. Boynton, Inc., Seawaren; C. H. De Voe, Old Bridge Enamel Brick & Tile Co., Old Bridge; Henry F. Koch, Perth Amboy; W. T. Campbell, Raritan Ridge Clay Co., Metuchen; J. H. Leisen, Old Bridge; C. Von Hartz and F. W. Schmidt, Didier-March Co., Perth Amboy; George M. Valentine, R. N. & H. Valentine, Woodbridge; and J. T. Ryan and R. P. Groce, Mutton Hollow Fire Brick Co., Woodbridge.



Nation's Business Men Asked to Make Suggestions Tending to Improve Postal Service

The Post Office Department has sent out a circular letter to more than 15,000 business men, firms, boards of trade, and chambers of commerce thruout the country inviting suggestions and constructive criticisms which may tend to the improvement of the postal service.

"The Post Office Department desires to maintain the postal service at a high standard of efficiency," says the letter, "and make it meet the necessities and requirements of the public. Notwithstanding the extraordinary conditions prevailing during the war the department has attempted to do that which no other country at war has undertaken, namely, to conduct the postal service without curtailment or restriction of facilities or conveniences to the public and at the same time perform the numerous additional duties and war activities imposed upon it. I am not aware of any way in which we can get in as close touch with postal needs as thru the busi-

ness organizations and representative business men of the country.

"With this end in view I am requesting that you advise me promptly whether your postal service is satisfactory and meets the necessities of the business interests; if not, what

are the existing defects wherein the service should be remedied and improved?

"I enclose an addressed penalty envelope which does not require postage, and I will greatly appreciate an early reply.

"Respectfully, J. C. KOONS, *First Asst. Postmaster General.*"

LABOR PROBLEMS *in* BUILDING MATERIALS FIELD KEEP GOTHAMITES *on the* JUMP

FEDERAL FARM LOAN PRINCIPLES applied to a form of government building subsidy will probably be laid before Congress as a means of releasing the millions of dollars' worth of construction that is being held up pending the adjustment of wage scales in a great many cities of the country, according to the Dow Service Daily Building Reports of February 3.

With the opening of the general construction season scarcely a month and a half away the building industry of the country, still stagnated because of its inability to make mill alterations, enlargements and repairs to meet the greatly enlarged demands upon their capacities, much less to meet the staggering demand for new construction of various kinds that is already looming into large totals from all parts of the country, construction interests are showing growing inclination toward indifference to the problem and to await readjustment from powers sufficiently large to cope with the international organizations backing up the demands of labor for higher wage scales. In New York the Building Trades Employers' Association has been called upon to meet a condition of labor disturbance of almost an unprecedented scope which began when the carpenters went on strike on all rush work on November 14. The Pennsylvania and Commodore Hotels have been completed, also the hospitals at Bedlows Island, the mail service station building has been completed and the Brooklyn Naval Hospital, Ward's Island, are being carried forward to completion by the association which is also handling a number of smaller jobs of its members which are being manned by some 1,500 carpenters under the provisions of the agreement still operating when the strike was called.

But new construction work is being seriously retarded, altho there is a great volume of work getting ready to come out that is classed as essential and necessary construction, such as industrial units, railroad terminals, warehouses and other forms of construction upon which depends the country's trade expansion during the coming year. These owners are in a dilemma. Building material and equipment prices continue to drop to attractive levels and the scarcity of rentable space makes it imperative to build at once. In the meantime the leasing season is approaching and there is visible signs of uneasiness among tenants who must move, but who say they cannot pay prices demanded by estimators for new construction, because lending companies are not prepared to make loans on a scale that can even approximate the relief needed for space-hungry tenantage of the eastern section of the country.

The principle of the Federal Farm Loan has been suggested to various authorities at Washington as offering possibilities of application to the building situation and the assurance was heard in the building trades last week that efforts will be made before the next Congress to have an appropriation set aside as a sort of building subsidy fund, to be operated on an amortization plan to make it possible to cover

the present high cost of labor until the law of supply and demand of man power has been met by the returning soldiery for a term probably extending over the period covered by the proposed measure to shut out immigration for approximately four years.

"WHEELBARROW LABOR" SCARCE

The great difficulty in the building material and building contracting industries of the country today is the almost total lack of what is called "wheelbarrow labor," which in the production of building materials is a very important factor. Scenes at the custom house last week when thousands of foreign-born men sought passage back to Europe, promised, if continued, to still further deplete the supply of labor in this country and make it increasingly apparent that some federal action would be necessary to meet the new economic factors.

It is this continuously aggravated decline in the efficiency and the volume of existing labor that is rapidly putting the cost of construction far beyond the power of associations to cope with and making it necessary for some new agency to step in powerful enough to stabilize the labor market artificially if it cannot be effected by economics.

Building material manufacturers are, in the meantime, making it attractive for construction interests to come into the market and considerable buying in anticipation of the approaching construction season is already reported. Forward buying, for autumn deliveries, is being generally discouraged. This is noticeable in plate glass, hardware, some of the metal lines, many of the clay products and some of the calcine lines. There is plenty of opportunity for the average builder to purchase lumber and timbers at advantageous prices, but there is little effort being made to buy in anticipation of lower prices next fall or even over the turn of the year. All building materials, with hardly an exception, may be accepted as being at practically the lowest ebb and it is assuredly only a temporary level. Even a twenty-per cent.-of-normal construction year will so heavily tax the available supplies of construction material as to keep prices steady, if not at even higher levels with a distinct tendency to advance with whatever increasing volume of construction there is to points which have not yet been reached.

Notable downward movements during the last week included new discounts on lead which dropped \$5.50 a ton; stove pipe, sash cord, cast iron sash weights, insulated wire, electrical pole line material, malleable iron fittings, electric lamps, and there are immediate prospects of reductions in plumbers earthenware, wire products and a few other lines.



A preliminary certificate of dissolution has been filed with the secretary of state at Hartford, Conn., by the Unit Brick & Tile Co., of Bridgeport, Conn.

AMONG *the* POTTERIES

Gleanings From Potters' Convention

Pottery ware production for 1918 totalling \$25,726,375, an increase of \$4,805,906 over the preceding year, is shown by reports at the recent convention of the United States Potters' Association, in New York City. A glowing tribute to women pottery workers who filled the places of men during the war-time labor shortage and reference to the installation of much labor-saving machinery were other points of interest noted from the report of the secretary.

The production of pottery ware by states for 1918 shows: Ohio, \$19,222,826; West Virginia, \$4,421,017; New Jersey, \$2,673,319; New York, \$1,574,962; all other states, \$3,834,251, making a total for 1918 of \$25,726,375 as against a total for 1917 of \$20,029,469.

Chairman W. E. Wells, of the labor committee, in his report said: "From the best information available it is estimated that the plants of our members were operated at 70 per cent. of capacity for the year as a whole. Of the 30 per cent. loss it is fair to attribute 20 per cent. to shortage of men and unnecessary idleness and the balance of 10 per cent. to other causes."



Charles Howell Cook, president of the Cook Pottery Co., Trenton, N. J., specializing in the manufacture of electrical porcelain products, was the principal speaker at the monthly luncheon of the Philadelphia Electrical Credit Association, at the Cafe Arcadia, January 22. Mr. Cook spoke on the subject of "Trade Under Past War Condi-

tions—the Outlook," saying that in his opinion business in general will not improve until costs of raw material and labor are stabilized. He pointed out that he did not favor a lower wage scale, but would urge business men to endeavor to have labor give an honest day's work in return for high compensation. When this is brought about, it is believed that it will work to gradually lower the present costs of production. The need for the getting together of business organizations thruout the country was also set forth, with hopes expressed for the formation of a central organization to arrange for the protection of business interests of this country against foreign competition. In speaking of the building outlook, Mr. Cook mentioned that he did not look for any great activity in this connection until after April 1. In the meantime business men should make a careful study of conditions and get their balance so as to meet prosperity when it comes. Reduction in prices will be slow and gradual, and it would seem safe to go ahead and buy. It was also pointed out that many industries have advanced prices recently instead of lowering them.



The Department of Labor, Washington, D. C., thru its working Conditions Service Department, has inaugurated a series of investigations in different aspects of pottery production. The survey has been undertaken at the request of the Potters' Union, and will cover all features of the work, particularly in the processes where there is danger of lead poisoning. The investigations are now being made at Trenton, N. J., and Liverpool, Ohio.

GLEANINGS *from the* MAIL BAG

Building conditions at New York are assuming a more active aspect, and views as expressed by leading interests in the trade indicate a decidedly brighter tone in the general outlook. That excessive costs, and primarily that of labor, are holding back active construction work at the present time is unquestioned, and as an example it is interesting to note that during one of the later weeks in January with over 200 building projects proposed during the period, only about 35 contracts for construction were awarded, almost all of the remainder being withdrawn for the time being owing to existing costs. Just how long this condition will exist is a matter of guesswork, but a remedy—and that lower prices for labor—must ensue in due course. There are a number of important enterprises now being considered in the building line at the present time and it is expected that these will mature at an early date. In Brooklyn, plans have been completed for eight new brick school buildings, three of these are estimated to cost \$556,000 each, three others about \$300,000 each, and the two remaining, \$238,000 and \$200,000, respectively. In the Queens section, the Milwood Building Co. is planning for the erection of two new brick factories, each about 95x100 ft., on Nott Avenue, near the Boulevard, Long Island City, to cost \$100,000.



The large plant of the Lavino Refractories Co., of Philadelphia, Pa., located near Womelsdorf, is almost completed and when finished 200 men will have steady employment.

The company purchased 130 acres of land along the foothills of South Mountain, on which Dr. H. M. Walters, vice-president and general manager of the company, several years ago discovered a deposit of siliceous clay rock, known as ganister. The plant is erected on six acres of ground and in it the ganister will be turned into gas retorts and coke oven retorts. The product is chiefly used for lining furnace hearths. When completely finished, it will be able to turn out 40,000 brick daily. Six kilns, 38 feet in diameter, are in course of erection. The crushing plant will be located on the mountain at quarry, and the ganister product after it leaves the crusher will be carried to the manufacturing plant by means of an aerial system. Then the storage bin is reached and after going thru the mixing pans, the material is molded into shape and sent to the drying room, where for twelve hours it will undergo the preparation for the burning kilns. From the time the product leaves the molding plant until the brick are ready for shipment, a month time is required. The brick will be of different sizes, but the base of all of them will be nine inches. The greater portion of the product will be shipped to South America and the remainder to eastern steel plants. The plant may be ready for operation by May 1.



The common brick market at New York is without interest at the present time. Deliveries from Hudson River points have ended for the season, excepting here and there

an arrival which may be sent down if the river continues navigable as at this date. The price of good hard common brick continues at \$15 per thousand, wholesale, along side dock in cargo lots, with a similar quotation of \$15 for second-hand brick in loads of 1,500 delivered on the job. The available supply at New York has reached a good sized proportion and large stocks may now be seen in many of the dealers' yards, with covered loads at the docks. Prices for face brick are well maintained at present levels, ranging from \$25 for Colonial brick to about \$45 per thousand for high grade smooth and rough grays, such figures being for the material delivered to the site. Face brick manufacturers are hopeful of a good demand for the commodity in the months to come, maintaining that the building revival as now anticipated will bring about the erection of a large number of fine structures requiring this material.

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Clay interests in the Woodbridge section of the Raritan River district have entered a protest against the assessed valuations of their different properties for taxing purposes by the township officials for the present year. These valuations for the clay and affiliated industries total many thousands of dollars, covering the works of the Federal Terra Cotta Co., Anness & Potter, General Ceramics Co., Electric Smelting & Aluminum Co., and others. At a meeting held by the Township Committee on January 27, it was set forth that the clay industries in this section were now experiencing unsatisfactory conditions, with operations, in general at a low status. If the different companies were compelled to pay the large taxes levied against them, they would, indeed, be facing considerable hardship. It was pointed out that several clay concerns have not as yet resumed operations as allowed by the cessation of the war. A request has been made that the taxes for the coming year be reduced to a minimum.

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An event of unusual importance in New York, about the middle of January, was the opening (within a week apart) of two new mammoth hotels, the Pennsylvania and the New Commodore, which have been in course of construction for many months past. The first noted is on Seventh Avenue and Thirty-third Street, opposite the Pennsylvania Railroad terminal, and the New Commodore at Lexington Avenue and Forty-second Street. Both structures were erected by the George A. Fuller Co. To show the important part that brick and clay took in the erection of these important hostelrys, it is interesting to note that 12,600,000 brick were used in the construction, 3,000,000 terra cotta blocks, 13,495 plumbing fixtures and 475,000 cu. ft. of back-up tile. The Atlantic Terra Cotta Co. furnished the terra cotta for the Pennsylvania Hotel, including Atlantic gray for the exterior of the upper stories, glazed polychrome for the restaurant and grill room and vitreous gray for the subway.

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The Philadelphia brick market can hardly be expected to show much activity with the construction of substantial buildings at a minimum. Prices for common brick hold firm at a yard price of about \$15 per thousand, and the demand while low, continues steadily from day to day. With the many brick manufacturing plants in this section, the material is sold to the builder direct from the yard, making an intermediate source of trade unnecessary. The call for ornamental and face brick is light, but those in this line anticipate a good demand for high grade ma-

terial with the arrival of spring. Other burned clay products, such as hollow tile, terra cotta, etc., are also being handled under a minimum demand.

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The Common Council of the City of Jamestown, N. Y., has directed the board of estimate and review to investigate the possibility of buying the plant of the Jamestown Shale Paving Brick Co. and establishing it as a municipal enterprise. The council's object is to find a home market for \$100,000 set aside in the city budget for paving brick. Since the Jamestown Shale Paving Brick Co. closed down its plant some months ago because of the labor shortage and high cost of materials the city has had to buy all of its paving brick from out-of-town concerns. Then the city fathers hit upon the scheme of buying the brick plant and at the same time make jobs for the returned soldiers, who have had experience in making brick or want to learn the art.

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The Greater New York Brick Co., one of the largest concerns handling Hudson River brick, looks for a continuance of firm prices for common brick in the New York district for some time to come. This company views the situation with a hopeful aspect and anticipates a revival in the demand for brick with the coming of the spring building season. It is pointed out that with the prevailing high prices for labor, things must be "put in order" before the trade can profit to a full extent. This will be brought about by cooperation of the different interests, and a give-and-take plan, as may be required.

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Brick manufacturing plants at Trenton, N. J., are active in cleaning up and arranging plans for early activity in the matter of production in the spring. With a continuance of the present mild, open winter it will be possible to get work under way promptly on schedule, and possibly some of the plants may inaugurate operations a little ahead of April 1, which is a customary time for the commencement of manufacturing. The four principal plants in this section are operated by Donahue & Nolan, Trent Brick Co., Joseph H. Applegate and the Trent Red Front Brick Works. These yards have an aggregate capacity of close to 20,000,000 brick a year, the production being shipped to New York, Newark and many neighboring points. Practically all of these plants have little if any reserve stock at the present time, having operated at reduced capacity during the past season and even the slight demand has taken all available supply.

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Wilson A. Philips, Trenton, N. J., well-known in building circles in this vicinity, has opened offices in the American Mechanics Building to deal in face and common brick, fire brick, hollow tile, terra cotta and other burned clay products. It is proposed to handle the lines of a number of well-known companies. For the past year or more Mr. Philips has been engaged in war work, being connected with the Foundation Co., of New York, working with the construction of the bag loading plant for the Government at Tullytown, Pa., and with the Du Pont organization at Nashville, Tenn.

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The Perth Amboy (N. J.) Tile Works, of which August Staudt is president, furnished all of the floor tile used in the bathrooms at the new Commodore Hotel, New York, just opened to the public. The order aggregated 50,000

sq. ft. of herringbone tile for a total of 2,500 bathrooms, being the largest single order for this kind of tile ever handled. This company specializes in the production of vitreous floor tile of highest grade, with aggregate plant capacity of 1,000,000 sq. ft. of tile per year under normal operating conditions. The plant is one of the most up-to-date works of its kind in the country.

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The Ohio Highway Commission opened bids January 31 for a large number of road improvement jobs. Bids were submitted on about three-fourths of the work. Several of the largest jobs are in Ashtabula County. F. P. Fitzgerald, of Ashtabula, bid \$421,418.60 to pave 11.92 miles of the Cleveland-Buffalo road with monolithic brick. Another job is in Ashland County where Walter S. Newhall Co., of Cleveland, bid \$104,752.91 for paving 4.08 miles of Savannah-Vermillion road with monolithic brick.

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The Adel (Iowa) Clay Products Co. conducted a three days' course for masons and contractors February 5, 6 and 7. Permanent building was the keynote of the programs during the three days and the subject was handled from a great many different angles. Part of the sessions were held in the plant and others in a theater. Experts from the state college at Ames, bankers, traffic experts, publicity men and lawyers were among the speakers in addition to a number of talks and lectures by men in the industry.

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The Crescent Refractories Co., Curwensville, Pa., has made an interesting announcement showing the increase in brick production at its plant for a number of years past. In 1909, the plant had a total output of about 30,000 brick a day; in 1912, this was raised to 65,000 brick daily and again in 1915 to 125,000 a day. During the past year the production at the plant has aggregated 275,000 brick per day. The company is now making extensive additions and improvements at its works to increase the present capacity. The expansion is estimated to cost over \$200,000.

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Lewis Kopp, of the Cincinnati (Ohio) Clay Co., and John Kopp, of the Evans Clay Manufacturing Co., Uhrichsville, Ohio, have purchased the plant of the Greenford (Ohio) Tile & Clay Co., which manufactures building and drain tile. The new owners have changed the name to the Kopp Clay Co. Mr. Lewis Kopp will resign his position as local manager of the Cincinnati Clay Co. and devote his entire time to the new plant.

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The stockholders of the Champlain Brick Co., Mechanicsville, N. Y., held their annual meeting on January 20, electing the following directors: G. T. Griffin, C. E. Hoskins, E. J. Norman, F. Almeron Griffin and A. W. Smith. The directors at a subsequent meeting elected these officers: E. J. Norman, president; G. T. Griffin, vice-president, and C. E. Hoskins, secretary-treasurer.

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J. E. Kenisell, of Edna, Tex., is planning the erection of a new sand-lime brick plant, to be located on the Nevada River, between Genada and Edna, having purchased the land adjoining this vast sand bar. He is forming a \$30,000 stock company and expects to get started on the plant about March 1.

It is announced that Walter Pursell, of the Pursell-Grand Co., Cincinnati, Ohio, has sold out his interests to Edmund Grand, who will organize a new company and remain in the present quarters in the Mercantile Library Building. Mr. Pursell has organized a new company also, to be known as the Pursell Co., with office and display room at 1008 Mercantile Library Building.

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Two buildings at the plant of the Baltimore (Md.) Brick Co., known as Yard No. 11, were destroyed by fire, originating in the boiler room, on January 20. One of the structures was equipped with machinery for production, while the other was used for storage purposes. It is understood that the buildings will be replaced.

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The Collingwood Brick & Clay Co., of Toledo, Ohio, has been chartered with a capital of \$200,000 to manufacture brick and other clay products. The incorporators are John H. Jameson, W. H. Albrecht, Jr., W. A. Howell, Francis J. Rulask and John H. Premond.

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Charles Frank, salesmanager of the Nelsonville (Ohio) Brick Co., manufacturers of paving brick, reports a larger number of inquiries received, showing more activity in paving circles.

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Inland Empire Plant Rapidly Expanding

The Moscow (Idaho) Fire Brick & Clay Products Co. is fast becoming one of the most promising industries in the Inland Empire. This concern has just received one of the largest orders obtained since they began the manufacture of fire clay products, about two years ago. The order referred to was placed with the Moscow company after most spirited competition with other concerns in the Northwest, and calls for several carloads of various classes of brick and special shapes, to be used in the construction of coke ovens on the Pacific Coast.

Tom Hall, manager of the Moscow Fire Brick & Clay Products Co., having just returned from a business trip to the coast, reports very encouraging prospects for business in the line of fire clay products and with the return to normal of construction business, predicts a very roseate future for manufacturers in this line.

An eight per cent. dividend, to be paid to the stockholders, who are all local people, quarterly, has just been declared by the Moscow Fire Brick & Clay Products Co.

The concern has recently constructed a small kiln to take care of small orders of special sizes that are wanted in quick time. This, with the two round down-draft thirty-foot kilns of 80,000 capacity each, gives a fair output for a small plant which has been operating for two years only. Thruout the summer the plant operated with a crew of eighteen men, with five men at the clay deposits at Joel.

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Fiske Bids Adieu to Brick Business

One of the startling developments of the annual meeting of the face brick manufacturers, now being held in Chicago, was the announcement of the withdrawal from the brick industry of J. Parker B. Fiske, formerly with Fiske Co., Inc., New York and Boston. Mr. Fiske for many years has been a prominent figure in face brick circles and his departure from the business came as a distinct surprise to most men.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Bureau of Standards Tests Dolomite Brick

As a substitute for magnesite in the manufacture of metallurgical furnace brick, dolomite may prove to be more successful than it is now estimated, according to the annual report of the Bureau of Standards. Experimenting in this work, the bureau has stated that if the proper flux could be found to bind and coat dolomite particles so as to prevent rapid hydration of the lime, it would be much more successful. Work along experimental lines has lately been suspended by the bureau on account of lack of help and the problem has not been carried out to a practical conclusion. When the bureau stopped experiments in this line a number of different compositions were being tested.

The brick was made of two parts, one of burned material known as grog which formed the skeleton of the brick, the other part of unburned material known as binder. The grog portion was made by burning to a temperature of 1500 deg. C. a mixture of 90 per cent. hydrated dolomitic lime and 10 per cent. of a special flux, the mixture being ground to pass a 100 mesh screen. The flux was produced by burning to a temperature of 1,400 deg. C. a mixture of equal weights of hydrated dolomitic lime and impure bauxite, ground to pass a 100 mesh sieve. The binder consisted of 85 per cent. of hydrated dolomitic lime and 15 per cent. of the flux.

The brick were made by mixing thoroly 70 per cent. of the grog (of 6 to 40 mesh size) with 29 per cent. of the binder and 1 per cent. of iron oxide, and molding in a power press. They were then dried in an oven at 110 deg. C. and burned to a temperature of about 1,500 deg. C. and cone 20.

The specimens molded with a pressure of 2,500 pounds per square inch appeared to be most satisfactory. Some of

the specimens when placed in water resisted hydration for six days. Others when left in the open air in the laboratory remained hard and did not begin to hydrate until they had stood for six months. These results would indicate that such a brick placed in a furnace would resist hydration and disintegration for a much longer time.

Hydrated lime was used because a large supply was on hand at the laboratory. For the grog portion and for the flux the hydrated lime could be replaced by ground dolomitic limestone. The binder must be a finely ground material which will not hydrate and cause disintegration in drying and burning. The possibilities for this purpose are hydrated lime, ground dolomitic limestone, ground slag, and Portland cement.

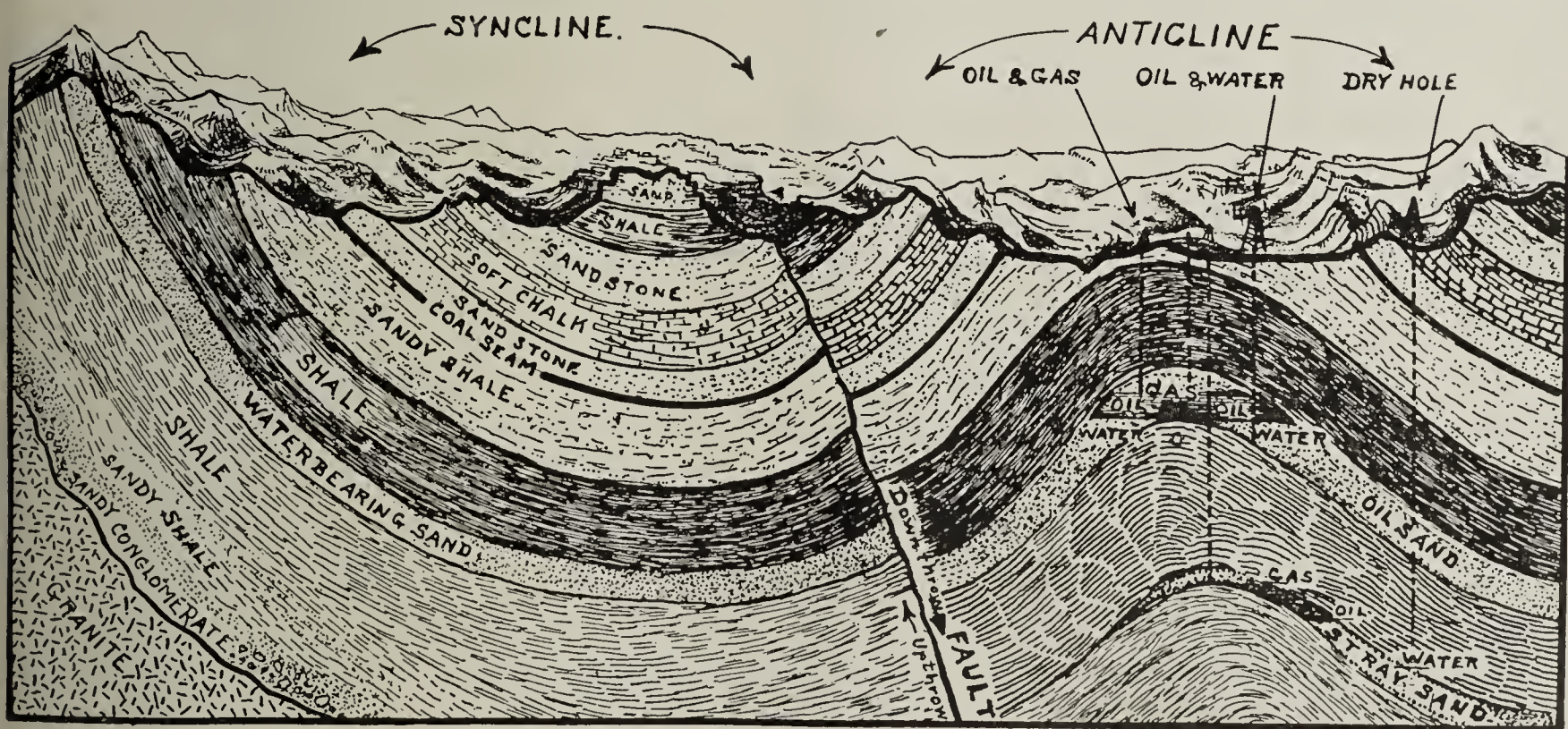
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A Short Lesson in Geology

The accompanying sketch which was presented in "The Lamp" to show its readers some of the geological formations existing in an oil country can well be used in this journal to illustrate the manner of occurrence of different geological formations.

Changes often take place in clays subsequent to their deposition. These may be local or widespread, and generally either improve the deposit or make it invaluable. The marked effect of some of these changes can be noticed in some clay beds in which only a portion have been changed. These changes are known as secondary changes and are of two kinds—mechanical and chemical.

In the uplifting of the beds of clay or shale, subsequent to their deposition, the amount of elevation is rarely the same at all points over a large area, so that the beds frequently



If You Could Take a Knife and Cut the Earth in Half Like You Would an Apple You Would Find Layers of Different Materials and the Section Would Resemble in Nature the Drawing Shown Above.

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Manufacturers of North Bend, Dover and Buckeye Brands.

GROUND FIRE CLAY

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show a variable degree of tilting. If the uplift is accompanied by folding of the rocks, the dip of the beds may be quite steep. At Golden, Colo. the cretaceous fire clays often have a dip of as much as 90 degrees.

Beds of clay and shale sometimes show folds. In the case of consolidated, or hard beds these may be due to lateral pressure, caused by movements in the earth's crust, while in soft beds the cause is frequently local. Many clay deposits in the northern states show a local folding caused by the shoving action of the ice-sheet during the glacial period. Such folds, however, are of minor account and affect only a few beds.

Where beds of clay are gently folded into arches they are known as anticlinal folds, and the troughs formed thru folding are known as synclinal folds. In these cases each bed slopes or dips away from the axis of an anticlinal fold and towards the axis of a synclinal fold, but if followed parallel to the axis it will remain at the same level, provided the axis itself is horizontal.

When a bed is not sufficiently elastic to bend it breaks and if at the same time the beds on opposite sides of the break slip past each other, faulting is said to occur. The amount of slippage may vary from a few inches to many yards. An example of faulting is shown in the sketch.

Both tilting and folding exert an important influence on the form and extent of the outcropping beds. Where no tilting has occurred, that is, where the beds are flat, only one bed, the upper one of the section, will be exposed at the surface, where the latter is level and lower beds will be exposed only where stream-valleys have been carved.

If the beds are tilted and folded, and the crests of the folds worn off, then the different beds will outcrop on the surface as parallel bands, whose width of outcrop will decrease with an increase in the amount of dip.

The fluids which may be present in some of the beds of a geological formation move along the line of least resistance and adjust themselves until an equilibrium is established, very much the same as water seeks its own level. The lightest fluid seeds the highest level which accounts for the accumulation of gas, oil and water at the highest part of an anticline.

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How to Care for New Leather Belting

The following inquiry concerning leather belts was written to "Power":

"What is the best method of improving the flexibility of a new leather belt? Is not mineral oil good for the purpose?"

The answer given is as follows: "Mineral oil is a solvent of albuminous substances and therefore is detrimental to the natural cementing substance of leather. For improvement of the flexibility, remove the glaze from both sides of the belt with a damp cloth and give both sides a liberal coat of luke-warm neats-foot oil, rubbed off dry after standing ten to twelve hours. A new leather belt should be thus treated several times a month and afterward kept moderately 'stuffed' with the oil to prevent stretching and cracking from alternate absorption of moisture and drying out with changing conditions of the atmosphere."

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The Harvey (Iowa) Brick & Tile Co. is making improvements on the kilns and erecting new smoke stacks.

The LETTER BOX

A Place Wherein Letters
That Have General In-
terest Are Published and
Commented Upon

Improvements Needed to Solve Labor Problem

In these days when labor and wage questions are proving very troublesome to clay products manufacturers, the industry is glad to learn how other manufacturers are solving the problems which arise almost daily. *Brick and Clay Record* is in receipt of the following letter from N. J. Cox, of Logan, Ohio, who has been an appreciative reader of this magazine, and passes it along to other clay products manufacturers in the hope that it will throw some light on their difficulties. Mr. Cox writes:


"The wage and labor question of today seems to be quite an obstacle for the clay industry to figure out and while some of them will come out all right in the near future, it will be some time before most of them will. I think that the labor and wage question can be solved without much trouble by the brick makers. Having done about eighteen years around and about brick, tile and hollow ware plants and for different companies, I have the right to know some crooks and turns about the business and here is the way the question can be answered—by improvements. Stop and think for yourself. What improvements have there been in the last fifteen years? Practically none compared to what some other industries have made. To see this more easily just take some one plant that you have in mind. Look at the equipment. What shape is it in? Look at the stock in the yard and the waste stock or more commonly called bat pile. Can you find any improvements? Are they what they ought to be or could be? But let me put some of the brick makers next to one thing sure—there will be more improvements in the next five years in the brick business than in all the years past and the labor can be improved just as much. They have got to come out of that old pod auger system. Labor will have to be classed and paid in accord to what they do—not what they are supposed to do. Get away with the pet jobs, snaps and do-littles. They can't make brick. I know the making of dies, run of dies, and there can be a great improvement right here if properly gone after, more so in the stiff-mud brick. We all know that we have to look out for friction of die, and contraction in drying, expansion and contraction and shrinkage in burning. How much attention is given here? About the same here as elsewhere about plants. Let us start out by making a stiff-mud brick with a soft core, which will dry much quicker, have less shrinkage cracks, burn much better, have less fire cracks and will stand the tests much better."

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Business conditions in the Hawaiian Islands are reported to be very good at this time and several San Francisco firms have been shipping considerable material there recently. The Standard Oil Co. is building a large brick garage in Honolulu; the California Packing Corporation is at work on a second plant on its holdings in Honolulu and the American Can Co., has numerous improvements underway.

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Volume of building in Syracuse, N. Y., for January, 1919, shows an increase of about three hundred per cent. over that of January, 1918. The total value of permits taken out during the first month of the new year was about \$69,000, while a year ago it was only \$23,000.



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is like hunting deer with birdshot. You can't possibly get good results.

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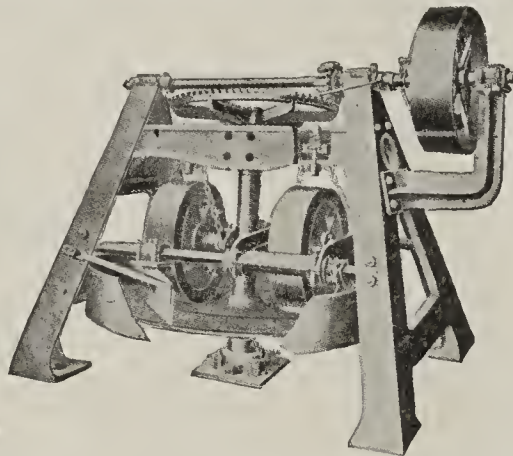
Speed up the work, and ease the strain on dry pans by installing a **Reliance Guaranteed Jaw Crusher**.

In some instances, the increased efficiency thus obtained has been remarkable.

Write us for booklet on Crushers. We also can give you information on Elevators, Screens, etc.

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THE EAGLE DRY PAN



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EAGLE IRON WORKS DES MOINES
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Aerial Tramways For Economical Haulage



Manufactured by
BRODERICK & BASCOM ROPE CO.
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A Three Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Wants to Know Standard Sizes of Brick

889. *Alberta—Would you kindly inform us as to what the standard size of pressed face brick is at present, also the standard size of common building brick. If there are different standards in different sections of the United States kindly state so, giving the size considered standard there and when adopted.*

If you have this information in regard to Eastern and Western Canada kindly let us have this also.

The National Brick Manufacturers Association has adopted $8\frac{3}{8}$ by 4 by $2\frac{3}{8}$ inches as the size of standard press brick, and $8\frac{1}{4}$ by 4 by $2\frac{1}{4}$ inches as the size of standard common brick.

In December 1917 the American Face Brick Association adopted 8 by $2\frac{1}{2}$ by $3\frac{1}{4}$ inches as the standard size face brick. The association also stated: "In referring to the size of a face brick, it is desirable that the three dimensions be stated in some definite way for the sake of clarity and uniformity. As the length and thickness of the brick are the dimensions most often appearing on the face of the finished wall, the length should be stated first, the thickness second, and the width last. This standard size shall apply to brick burned to average hardness, with all allowance for the usual commercial variations from said dimensions in brick harder burned or softer burned than the average."

We regret to state that there are different standards in different sections of the United States, but since we know of no list of such standards, we are unable to give them to you.

With regard to standard sizes in Eastern and Western Canada, we believe that some one connected with the Sun Brick Co., at Toronto, ought to be able to give you this information.

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Has Trouble in Winning Clay

888. *Arkansas—We wish to inquire if you know of anyone getting their raw material in a way that they can control the mixtures of shale and overburden of top earth and rock. Our shale has an overburden of sand rock and top earth and we find that a mixture of a small per cent. of top earth and shale makes really a better brick than a straight shale. We use a steam shovel. However, in getting this material and when we have a cave-in of top earth, there is nothing to do but to load it to get it out of the way, giving us practically an all clay brick, which gives us trouble on account of shrinkage in one material being more than the other. Then in making face brick, it makes an entirely different brick. We have no way to separate this in our bin. (our material going direct to bins, thence to dry pans) and*

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

We thought there was some way that we could get this material and mix the raw materials in the pit. Our pit is so situated that we could do this provided we could dig the shale. What have you to suggest?

We do not at present recall any plant which has the same peculiar clay pit problems which you write of. There are several plants whose clay bank contains strata of clays which differ considerably in their physical and chemical properties. In these particular cases, a thoro mixture of the entire bank is required and this is accomplished by the use of a shale planer. If your bank contains hard sand rock in large pieces, a shale planer may not be applicable.

Another method of handling this condition would be to strip the clays separately, depositing them in different bins and then feeding the proper mixture to the dry pans.

The third method and one which is similar to that used by the Metropolitan Paving Brick Co. at their Bessemer plant, is to crush the material obtained from the bank to the size of an egg and then using a tripping device for depositing the crushed clay in the storage bin. In this manner a very thoro mixture which will be uniform thruout the entire storage bin is automatically obtained. This is a very good method but involves the expense of a preliminary crusher and a tripping device.

We will keep your problem in mind and should we hear of any further methods of winning clay such as would be applicable to your case, we shall supply you with the necessary information.

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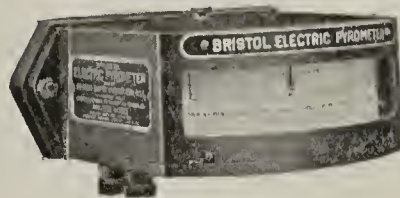
Must Burn Brick to Higher Temperature

891. Sydney—*We are trying to develop the making of a portion of our steel ladle brick, from local third class fire clay (fushion point of 1,450 deg. C. to 1,530 deg. C.) mixed with grog made from ground clay brick bats, in the proportion of 25 per cent. clay and 75 per cent. grog, and so far have met with middling success.*

In our experimental work we molded these brick by hand, stripping them from the mold on two trays, which are in turn placed on rack cars, dried in a small steam coil dryer house, and burned in a small rectangular down-draft kiln to a temperature of 1,800 deg. to 2,000 deg. Fahr.

The question we would like information about is: What is the best method of manufacturing brick containing such a large proportion of grog?

Not being actually on the job, it is hard to state just what is the best method of fabricating fire brick made of 25 per cent. clay and 75 per cent. grog. Clays vary in degree of plasticity upon which characteristic depends



Who's Responsible
for that batch of work
gone wrong? Put a

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on the job, and you won't have to ask that question. Instead you can say "Why did it happen?" You have the complete details before you in Bristol's Chart Records.

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"MORSE" Drives will SAVE, CONSERVE
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Yes, Mabel

We make Sprockets, too—all sizes standard cast iron Sprockets, Plain and Clutch Hubs, Clutches, etc. All sizes Cut Tooth Sprockets. $\frac{3}{4}$ -in. pitch and larger, for motor drives, etc.—and many of the big boys from coast to coast won't use any other make.

**The Union Chain
& Mfg. Co.
Seville, Ohio**

Raw Ceramic Materials Directory of Dealers

If you ever purchase any fire clay, infusorial earth, barium carbonate, etc., you will need *the only complete Directory of Dealers* obtainable. Prepared by the American Ceramic Society.

Costs 50 cents

BRICK & CLAY RECORD, CHICAGO

We Can Save You Time, Money and Trouble on Fire Brick

BECAUSE OF

Quality, Price and Service

Freight Rates on all R.R.'s in UNITED STATES and CANADA

A Trial Shipment Will Convince You. Write Us

ALSEY BRICK & TILE COMPANY
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Clean, profitable fuel for burning clay products.
Used by some of the largest concerns in the clay
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We are prepared to ship in any quantity and on
time. 12,000 tons daily capacity. Ill. Central—
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SAUERMAN DRAG LINE CABLEWAY EXCAVATOR

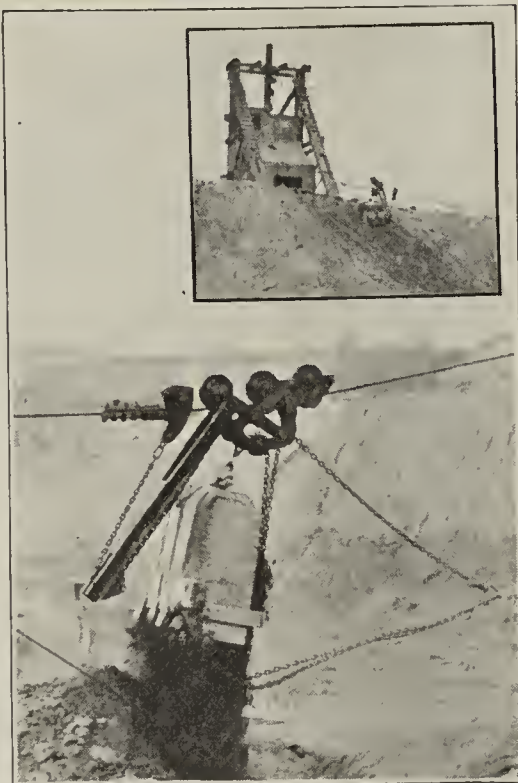
Is a one-man machine which connects the clay pit with the plant and digs, conveys and dumps the clay in one continuous operation. It does away with the shoveling gang and the cars, locomotive, track, etc., that are required when other kinds of excavating machines are used.

Here's Example of Economy of Sauerman Outfit in Clay Plant:

The problem confronting one large Ohio brick manufacturer was to find the most economical means of getting the clay from a large hill and delivering to the plant situated in the valley. The method first tried out involved the use of a steam shovel with cars and horses to haul the clay to the plant and required the employment of six to eight men.

The Sauerman outfit which has taken the place of the shovel and cars, digs the clay from the hill and conveys it to a hopper from which a car runs up and down a short incline to the plant. Two men constitute the entire operating force.

The small picture shows the bucket digging a load near the top of the hill. The bucket loads in a few seconds, then the drum carrying the load cable is released by the operator of the double-drum friction hoist on the hill-top and the loaded bucket returns down the track cable by gravity to the hopper 500 ft. away in the valley. The large view shows the quick, sure, automatic dumping action of the bucket.



This low-end dump type of installation has proved to be a perfect solution of this clay-digging problem. Our other type of outfit, dumping at high end of cableway, is equally successful where the clay has to be delivered to a point higher than the place of digging. What is your problem?

Catalog free on request.

SAUERMAN BROS.
316 S. Dearborn St., Chicago
Mfrs. Cableway Excavators, Power
Scrapers and Cableway Accessories

whether or not your brick can be made by any other processes than the hand-molded soft mud.

After knowing the properties of your clay body, we would venture to say that in all probability the best method of manufacturing your brick would be by the hand-molder soft mud process or by the soft mud machine method. However, in burning your brick we believe that you will find it necessary to burn to a much higher temperature than that which is stated in your letter namely, 1,800 to 2,000 deg. Fahr. Fire brick should be burned to a higher temperature than this and in many cases are burned to about 2,500 deg. Fahr.

We are inclined to believe that the chief difficulty you are having in not getting the best quality of ware is due to the fact that you have not burned your brick to a high enough temperature.

We hope that this information, which is as comprehensive as we can give at this time under the circumstances, will prove of some value to you.

✽ ✽ ✽

Cannot Judge from Chemical Analysis

890. Missouri—The following is an analysis of shale on which we would like an expert opinion as to its suitability for the manufacture of silo and hollow block, brick and drain tile. Also as to whether the calcium content would be likely to cause disintegration in the finish product after being placed in the wall, and if the soda and potash would be likely to cause disintegration in the finished product after being placed in the wall, and if the soda and potash would be likely to cause scum and, if so, how to eliminate these defects, if any.

Moisture	2.05 per cent
Loss on ignition.....	9.00 per cent
Silica (SiO ₂)	54.20 per cent
Iron Oxide (Fe ₂ O ₃).....	5.77 per cent
Alumina (Al ₂ O ₃)	16.73 per cent
Calcium Oxide (CaO)	5.20 per cent
Magnesium Oxide (MgO).....	Trace
Soda (Na ₂ O)	1.45 per cent
Potash (K ₂ O)	1.31 per cent

95.80

After studying the analysis contained in your letter, we are inclined to believe that a clay of your analysis would be unsatisfactory for the manufacture of clay ware, the reason for this being that the clay contains too much calcium which will cause your ware to scum. The soda and potash content is not at all injurious and all that it does is to act as a flux.

Before we go any further we must tell you that a chemical analysis is absolutely no criterion by which to judge the quality of a clay for clay products manufacture. Two clays altho they may have the identical chemical analysis, may give entirely different results upon fabrication. One may be very successful and the other a total failure.

The best way to test a clay is to submit a sample of about one hundred pounds to the Department of Ceramic Engineering, University of Illinois, Champaign, Ill., where the proper facilities for testing clay are at hand.

Very few clays used in the manufacture of brick, tile or sewer pipe, contain more than one per cent. of calcium oxide.

✽ ✽ ✽

Plans are being considered for the rebuilding of one of the plants of the National Clay Works, Mason City, Iowa destroyed by fire last fall. The new plant would cost \$100,000.

IN the WAKE of the NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Personal

William McKissick, of McKissick & Co., Carlisle, Iowa, is spending the winter in California.

John H. Bieber, manager of the Kutztown (Pa.) Brick Co., gave a dinner to his associates at the plant on January 23.

L. W. Post, president and founder of The Post Brothers Tile Co., Commerce, Mo., died on January 23, in the 72nd year of his age.

Dan Morey, of the Morey Clay Products Co., Ottumwa, Iowa, has been discharged from the army and returned to Iowa. Mr. Morey has been in aviation.

Chas. F. Clippert, of the Geo. H. Clippert & Bro. Brick Co., Detroit, Mich., was elected president of the Builders & Traders Exchange on January 22.

Charles A. Rawson, president of the Iowa Brick & Tile Co., Des Moines, arrived in France January 15 and expects to spend at least six months in Y. M. C. A. work here.

Allen Platt, son of C. B. Platt, secretary of the Permanent Buildings Society, has returned to civil life after a year in aviation. Mr. Platt was commissioned a second lieutenant and his last service was at Sacramento.

C. T. Bliss has been made manager of the Cincinnati (Ohio) Clay Co., with offices in the First National Bank Building, succeeding Lewis Kopp, who soon leaves for Greenfield, Ohio, to engage in the manufacture of clay specialties with his brother. Mr. Bliss was formerly connected with the Buckeye Fire Clay Co., Urichsville, Ohio.

L. H. Washburn, of Haverstraw, N. Y., one of the largest manufacturers of brick along the Hudson River, died suddenly of heart failure on January 24. He was 50 years of age. Mr. Washburn had been elected president of the Greater New York Brick Co., New York City, on January 21, succeeding Senator John B. Rose. He was treasurer of the Peoples Bank of Haverstraw and manager of the large Washburn estate.

F. A. Wilkie, treasurer of the Bellmark Co., Trenton, N. J., manufacturer of sanitary earthenware, died January 9, at the McKinley Hospital in that city as a result of injuries sustained thru an accident at the plant. Mr. Wilkie is said to have attempted to jump across a new fairway opening and missing his footing fell thru to the floor below, fracturing his skull. He was about 60 years of age and long active in pottery circles. He came to Trenton about three years ago from Boston, Mass.

M. M. Morrow, familiarly known as "Bob" Morrow, who is a captain in the fuel division of the quartermasters' department, visited Columbus, Ohio, last week on a few days of leave on a trip between Washington, his headquarters, and Chicago. Bob is anxious to get back into civil life where he was salesman for the Hocking Valley Brick

A Thought for 1919

Build Your Business on a Better Product!

INSTALL

The Standard Brick Drier

Write for the catalog and a list of
thoroughly satisfied users whose
drying problem is the same as yours.

The Standard Dry Kiln Co.
1540 McCarty St., Indianapolis, Ind.



WATERBURY WIRE ROPE



All Waterbury Wire Rope, whatever grade the conditions may demand, gives that efficient service which can come only from the highest quality of materials and workmanship.

Its unusually long life under unusually severe conditions merely proves the worth you would expect to find in a rope which has become the sole choice of thousands of users.

Whether your chief requirement is strength or durability, safety or economy in upkeep, the quality in a Waterbury Rope is your surest guarantee of satisfactory service.

Catalog:

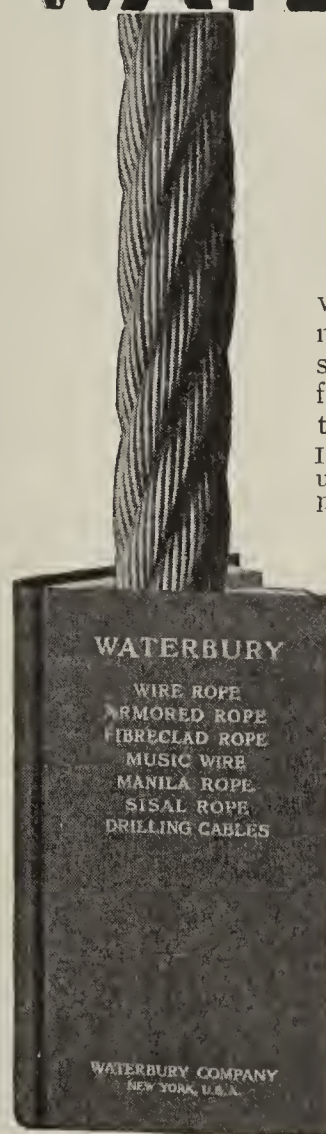
A 220-page cloth bound Rope Manual covering all kinds of rope—Fibre, Wire, Fibreclad Wire and Armored Wire—will be mailed free upon request.

WATERBURY COMPANY
63 PARK ROW, NEW YORK

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Chicago, 1315-1321 W. Congress St.
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2296W



"We have been using at our two factories for the past year, Barium Carbonate made by the Rollin Chemical Company. This material is used to prevent scum and has proved entirely satisfactory."

THE UNITED STATES ROOFING TILE CO.

5-15-18

IMPROVE YOUR WARE

It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

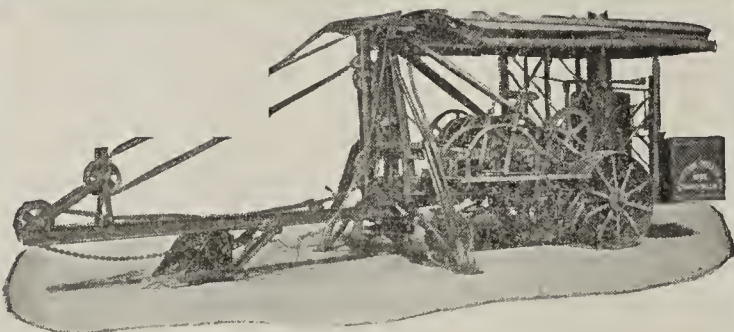
Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

Write us now.

The Rollin Chemical Co.
Charleston, W. Va.

BRICK MUST HOLD UP ITS REPUTATION

KEYSTONE



Have you a shallow pit—
from one to six feet deep?
Do you strip your shale pit?

The Keystone Excavator 10-Ton Traction

means a lot to the man who is operating under these conditions. Equipped with three different buckets, it is adaptable to a wonderful variety of work.

The flat bottom SKIMMER SCOOP (shown above) is designed expressly for shallow cutting. Mounted on a sixteen-foot boom, it has a horizontal crowding movement of eleven feet—hence can be used on cuts 6 inches in depth, loading 200 to 500 cubic yards per day and replacing 25 to 50 hand shovelers. Powerful and strong, it will dig shale or tough fire clay without blasting—anything but solid rock.

Operating in soft material, against a high bank, the half-yard DIPPER SCOOP is used.

For excavating below grade the DRAG DITCHING SCOOP is put on.

Its light weight (10 tons), long wheel base and large tread wheels make it an ideal traction, and its low cost makes it available to the plant of moderate capacity.

May we send catalog and list of Brick Makers who are using Keystone Excavators?

KEYSTONE DRILLER CO., Beaver Falls, Pa.
170 Broadway, New York City Joplin, Missouri
Monadnock Block, Chicago

STEAM SHOVELS

Co. He says clay manufacturers generally are optimistic of the future and predicts a rather active time possibly after June 1.

William L. Horton, general superintendent of the Laclede-Christy Clay Products Company, St. Louis, Mo., was almost instantly killed on January 24, when his automobile was struck by a Missouri Pacific train near the plant of which he was the operating chief. Horton was driving out of the yard and some buildings obstructed his view of the railroad track. The oncoming locomotive crushed his automobile and Horton died thirty minutes later on the operating table of the city hospital. Mr. Horton was 48 years old and entered the service of the Laclede-Christy company at the age of 22. He worked his way up from a clerk and became general superintendent of the various plants of the concern four years ago.

California

Architect J. W. Dolliver has completed arrangements for the construction of a two-story, with basement and attic, home near Sacramento, Cal., to be erected at a cost of \$75,000. The house will have a tile roof.

Gladding, McBean & Co., are building a two-story brick and terra cotta office building at their plant at Lincoln, Cal. The foundation is of concrete and common brick; the exterior and interior walls will be of face brick and the roof of Cordova tile.

Notice has been received that Mayor Lisenby, of Long Beach, Cal., has rejected all bids for the purchase of 15,000 feet of pipe for use in the city water department, in view of the fact that he has been authorized to enter into private contract for the pipe. The cost is estimated at about \$19.71 per 1000 feet.

The clay products situation is still more or less tied up on the Pacific Coast, and members of the trade figure that it will be a month or two yet before conditions will change to any extent. Altho buildings are badly needed in San Francisco and Oakland, Cal., and the architects have any number of plans ready, when it comes down to the last word that will start things moving, the high prices of materials seem to keep the builder back.

There is a movement on foot to introduce a bill in the California Legislature to standardize common brick. It is in the hands of Senator Scott in co-operation with manufacturers and architects, with the approval of Charles G. Johnson, superintendent of the department of weights and measures. At the present time a generally accepted standard prevails, but certain manufacturers are said to have been producing a smaller article with which they have been able to underbid the regulation brick. The proposed size is 8 by 3 1/3 by 2 1/4, with a tolerance of one-eighth inch in length, three thirty-seconds in width and one sixty-fourth in thickness. If passed, the bill would go into effect January 1, 1920.

It is understood that negotiations for the location of the new plant of the McKnight Fire Brick Co., of Los Angeles, Cal., in Bakersfield, Cal., are underway at the present time. Over two years ago, a 17-acre site, suitable for the manufacture of magnesite fire brick and building brick, located east of Bakersfield on the Southern Pacific railroad, was offered J. H. McKnight of the brick company and plans were well underway for the transaction when war conditions made it impossible to go ahead with the deal. Since the first of the year Mr. McKnight has been figurin-

on an extensive plant for the manufacturing of brick on a large scale and the prospects at Bakersfield for the new industry are considered to be very favorable, providing the location can be purchased at an acceptable figure.

Delaware

The Mississippi Gulf Soil Pipe Co., the South Atlantic Soil Pipe Co., the North Atlantic Soil Pipe Co., and the Texas State Pipe Co. have been incorporated at Dover, Del., each with capital stock of \$100,000, to manufacture clay pipe, etc. L. B. Phillips and E. B. Thomas, Dover, are the incorporators.

Indiana

Farmers living near Kendallville, Ind., have petitioned the county commissioners for a brick highway across Allen township, the road to be eighteen feet wide. Residents of this township took the initiative in county road betterment a few years ago and succeeded in obtaining the construction of gravel road from Avilla and Kendallville.

Building operations in Indianapolis, Ind., in January were three times as great as they were in January, 1918, according to figures compiled in the office of Blaine H. Miller, city commissioner. The increase is attributed to the ending of the war and to unusually favorable weather conditions. There were 298 permits issued on property valuations of \$219,215 during the month just ended as compared with only seventy-nine permits on valuations of \$68,072 for the same month in 1918.

Building operations at Gary, Ind., showed a big increase in January 1919 over the same month last year. Twenty-two permits with property valuations of \$55,707 were issued for January this year as compared with only three permits with property valuations of \$5,220 in the same month of 1918. Five of the new buildings placed under construction at Gary in January will be of brick, nine will be of frame construction, two of brick veneer and one of cement block. Plans have been completed for the beginning of construction this month of more than forty residences and flat buildings.

A recently organized concern known as the Brazil (Ind.) Block, Coal & Clay Co. has been incorporated under the laws of Indiana with a capitalization of \$10,000. J. J. Bucklin is president and general manager of the new company; Dr. A. A. Spears, vice-president; Edward Nolte, secretary, and Eugene Wardlaw is treasurer. The company recently bought two mines from the Crawford Coal Co. at Brazil, and it is the intention of the concern to engage in the clay manufacturing business and use the fine veins of fire clay in the two mines for manufacturing purposes.

Iowa

The Clermont (Iowa) Brick & Tile Works was destroyed by fire recently, the loss amounting to several thousand dollars. The plant will be rebuilt.

E. E. Blackman has sold his clay plant at De Soto, Iowa, to parties from Tiffin. Mr. Blackman has also disposed of his land holdings at De Soto and is planning to move to Texas.

The National Clay Works, Mason City, Iowa, was practically wiped out by fire in January. Estimates of the loss are \$60,000. Plans are now being made to rebuild the plant.

Perforated Steel Screens

Of Every Description

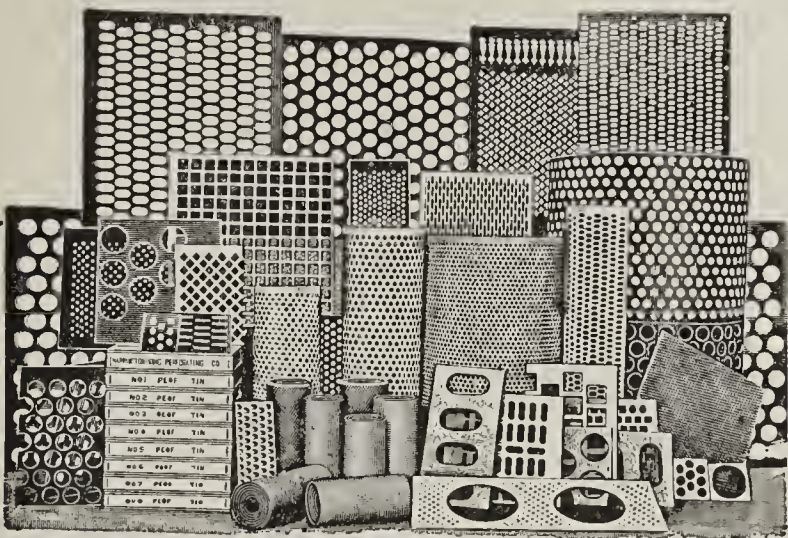
For Screening Clay, Shale, Sand,
Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity,
Durability and Satisfaction

The Harrington & King Perforating Co.

635 N. Union Ave., Chicago, Ill.

NEW YORK OFFICE: 114 Liberty St.



—Your Choice

Cut out the waste in your burning
or

Have your coal bills eat up your profits.

COAL is the very life blood of the nation today. The Fuel Administration must see that it is used to the best advantage—waste cut out.

Use CANTON SHAKING KILN GRATES and save 25% of your fuel. Others are doing it, and they are the concerns who will be favored in the distribution of coal.

You must either line up with the Fuel Conservation program or be left out of the running.



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Price Sturdiness

Because of their sturdy construction and ability to stand up under all weather conditions, Price Pyrometers make good in Brick and Tile plants.



Rain, storm and extreme cold have little or no effect on their temperature readings. This means reliability and dependability when you need it.

It is another reason why Price Pyrometers soon pay for themselves.

Write for latest catalogue today, showing the many advantages of Price Pyrometers in Brick and Tile plants.

The Price Electric Co.

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You won't have to worry about competition if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

*We have a complete line
of high grade chemicals
for the clay industry*

The Roessler & Hasslacher Chemical Company

100 William Street

New York

Chicago, Ill. Cleveland, O. St. Louis, Mo.
Kansas City, Mo. San Francisco, Cal. Philadelphia, Pa.
Boston, Mass. New Orleans, La.
Cincinnati, O.

Another Iowa plant which was damaged by fire was that of the Lehigh (Iowa) Clay Products Co. The plant was almost a complete loss. The owners have not yet decided on their future plans for the plant.

The January meeting of the board of directors of the Auburn (Iowa) Brick & Tile Co. was held at the office of the company on January 6. It was decided to build two new smoke stacks and make other improvements preparatory to a resumption of operations about March 1. S. J. Galvin was retained as general manager.

The Permanent Buildings Society reports that new members are being gained constantly and a great deal of interest is being shown by the producers of the state. The society is conducting a direct advertising campaign and is also starting advertising in the agricultural papers. Unusual interest is reported in regard to permanent buildings in farm construction.

Kentucky

The Kentucky Fire Brick Co., Haldeman, Rowan County, Ky., has amended its articles increasing the capital from \$175,000 to \$375,000.

The P. Bannon Pipe Co., of Louisville, Ky., has recently let a contract for the erection of a new fireproof garage at its plant, for taking care of its motor trucks and business cars.

At Harlan, Ky., the General Construction Supply Co. capital \$30,000, has been incorporated by F. F. Cawood, John Young and Clyde Rice to handle general lines of building supplies, including brick.

Amended articles of incorporation have been filed by the Pennsylvania & Kentucky Fire Brick Co., Rowan County, Ky., decreasing the capital stock of the company from \$250,000 to \$25,000.

Robberies have been so numerous in Louisville during the past few weeks that it is now becoming necessary to lock up everything of value overnight. As a result the Louisville (Ky.) Fire Brick Works is installing another large office safe in order to "play safe."

The Kentucky Fire Brick Co. held its annual meeting at Haldeman, Ky., on January 22 and the following officers were elected: L. P. Haldeman, president; H. K. Leighov, vice-president and general manager; C. E. Foust, sales manager; Russell Becker, secretary and treasurer. These officers, with Gilbert Monroe, complete the board of directors.

That the use of second-hand brick and material from wrecked buildings is growing is shown in a request recently made by the machinery house of Thomas L. Barrett, 127 North Third Street, Louisville, Ky., which has asked for prices and data relative to portable or semi-portable power driven machinery for cleaning or scraping lime and sand mortar from the surface of old brick from wrecked buildings.

The Columbia-Panama Coal Co., H. H. Hardinge, president, Manchester, Ky., is planning to install a brick plant with a full line of machinery for manufacturing brick to be used in construction of large mining plants, miners' homes etc. This company plans some very big coal land developments, and will install a sawmill, power plant and considerable equipment. It plans to manufacture its own building materials on the premises from its own clay and standing timbers.

While a good deal of work is in prospect in Kentucky

there is very little new business coming out just now, but a great deal of interest in the kiln and a belief in their price, but this is due to the fact that it is generally believed that Kentucky is likely to have some bad weather before the close of the winter season. Never before in the history of the United States has Kentucky seen three winters without bad weather and a new good season prior to February 1.

The annual meeting of the bricklayers of the Louisville and First Brick Co. was held January 20 and the following officers were elected: W. E. Seaton, Charles Howell, John Howell, E. C. Means and E. H. Gattrell. At a subsequent meeting the following named officers were elected for the coming year: W. E. Seaton, president; Charles Howell, vice-president; E. H. Gattrell, secretary and general manager; John E. Russell, assistant general manager and E. M. Wenzel, treasurer.

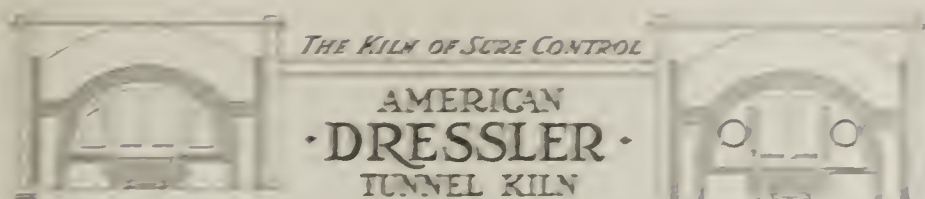
At the close of the recent convention of the Kentucky Clay Products Association at Louisville, the members were taken to visit the plant of the Southern Brick & Tile Co. in order that they might investigate the gas producer system which was installed there a few months ago and which was in operation at the time of the convention. Several members had never seen such a system in actual operation, and showed considerable interest in the installation methods used and products that had been taken from previous burnings.

Indications are that some good brick work will come out shortly in connection with plans of the Inter-Southern Life Insurance Co. to erect a large addition to its twenty-story building at Fifth and Jefferson streets. It has not yet been decided whether the addition will be ten stories or run the full twenty as yet. However, the ground floor is now small for the merged Citizens and Union National banks, and an addition will be erected. In this connection the German Bank Building, now owned by the National Bank of Kentucky, is also to be enlarged. Revival of the plans for building the Louisville Auditorium are also being discussed. At Owensboro, Ky., George Blech plans erection of a \$40,000 moving picture house using steam-burned red brick.

Massachusetts

Brick manufacturers in Western Massachusetts may find themselves short of fuel when the brickmaking season opens up in the spring as a result of a difference between the manufacturers and the dealers who cut and market the charcoal used at the brick yards. The lumbermen before wood choppers have demanded \$2.50 a cord for cutting wood and as a result the price to the brick manufacturers must needs be increased materially, while a number of brickmakers have taken the stand that they already are paying a sufficiently high price for the kiln fuel.

While every effort is being made by officials of the state and in many of the cities to follow the advice of Secretary of Labor Wilson and secure an early resumption of building activities in Massachusetts, and work on some delayed contracts already is beginning to get under way, the effect of the campaign has not yet worked down as far as the manufacturers and dealers in brick. The past month saw but a few scattered orders of any noticeable size placed but dealers generally expect better conditions in spring approaches. With all the talk about the abundance of help in the labor market manufacturers are hopeful



Prepare for the demand of Peace and Prosperity

AMERICAN DRESSLER TUNNEL KILNS, Inc.
171 Madison Ave., New York, N. Y.



Bituminous COAL Particularly Adapted To Burning Clay Ware

INDIANA BLOCK

Three Operations in Clay County, Indiana, on Monon R. R. Capacity, 3,000 Tons per day.

INDIANA Number 4

Three Operations in Green County, Indiana, on Monon R. R. Capacity, 3,000 Tons per day.

Both burn with long flame, are very low in sulphur, and leave a flaky ash.

Tell us your requirements

POWER COAL COMPANY

FISHER BUILDING :: :: CHICAGO

Traction Building, Indianapolis, Ind.
Terre Haute, Ind.

6 years or 100 years---which?

**"Build
for
Service"**



The iron stack to left was 6 years old, rusted, when recently it blew down. The Radial Block Chimney, costing only 30% more for initial construction, and requiring no painting or further care, will be good for 100 years and give far better service.

We build and furnish complete chimneys for any usage and for clay plants of any description. We also specialize in the construction of complete Round, Down-Draft, Rectangular and Continuous Kilns.

Write us your requirements, and we will be glad to make suggestions and quote prices.

**J. M. CUTSHALL
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General Contractors

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INDIANA**

Speed & No. 1 Ware

The popularity of Baird's Pottery Machines is due to their speed, simplicity of design, plus No. 1 ware.

The mould or head-piece of these machines always remains free from adhering clay. With the help of an ordinary workman, one of these machines will speed up production on easy selling ware, and increase your profits.

Send us a sample of your clay at once, and learn the possibilities of these machines. You will be surprised with the results. Write to-day to

Baird Machine & Mfg. Co.

265-69 Jefferson Ave., E.,
Detroit, Mich.



**Flower Pots
Runner Brick
Stone Ware
Insulators
Crucibles
Sleeves
Nozzles
Etc.**

that the labor situation will be easier when weather conditions permit of a resumption of manufacturing.

Missouri

The largest building permit taken out in St. Louis this year was issued to A. B. Groves, architect, and the Murch Brothers Construction Company for a ten story \$300,000 structure to be erected at Seventeenth and Washington avenue for George Warre Brown, the shoe manufacturer.

The stockholders of the Hydraulic-Press Brick Co., St. Louis, Mo., one of the largest brick manufacturing companies in America, held their annual meeting on January 29 and elected the following board of directors: George A. Bass, Ralph Simpkins, G. J. Kendall, J. Howard Holmes, F. G. Eaton, Onward Bates, M. F. Watts, J. F. Shapleigh and George F. Baker. George A. Bass was reelected president of the company, Ralph Simpkins, vice-president, George F. Baker, secretary and treasurer, and A. B. Ames, assistant secretary and treasurer.

Satisfied that the deep cut in street sprinkling bids in St. Louis received recently indicates that prices in general have taken a big drop, the board of public service will let a number of contracts for new streets and sewers during the week of January 27-February 2. Members of the board feel that if the sprinkling contractors are in a position to bid much lower for public work, building contractors should do likewise. It is also argued that the new work will furnish employment for hundreds of members of the building trades crafts, who are now idle. The city administration is encouraging the letting of public work right now. Mayor Kiel says it sets a good example for other people and will help the community in general.

Brick manufacturers of St. Louis, Mo., are cheerful to the extent that they believe that it will not take long to start the ball rolling, once it gets going. The big idea right now is to get it spinning some way. Confidence is the watchword, in their estimation. They believe in the future of the great cities of the United States, particularly their own territory, the Middle West, and are trying every way they know how to speed up constructive ideas. Cooperation, it is believed, will help the situation a whole lot. The brick manufacturers believe in bond issues to stimulate public work, the construction of new streets, boulevards, sewers, alleys, etc. This would afford immediate relief, in their estimation. All the clay products manufacturers take the same view of the situation. They believe that a concerted move on the part of the great municipalities of the Middle West to initiate needed public work is the logical solution of the unemployed evil.

New Jersey

The price of common brick at Newark, N. J., has dropped to \$18.50 delivered as against a price of \$19.50 a thousand, which has been existing for some time past. Local brick men view the situation hopefully, and it is expected that before long a good, continuous demand will ensue for brick, hollow tile and kindred products. Plans now in contemplation for a number of important buildings seem to make this a certainty. For this reason, stocks are being kept up at a good level and sufficient for all current and anticipated demands.

A survey of the building situation thruout New Jersey, in such centers as Newark, Jersey City, Paterson, Trenton and neighboring sections, shows no change of particular moment. The demand for brick, mason materials and

other building supplies is light, but the general stocking up by the more important yards and dealers shows that the anticipations are for an early revival of construction work of all kinds. Prices of brick and building materials in these different cities hold firm, with no indication of any drop at the present time, and from the opinions expressed by many of the leading brick and affiliated interests, prices are destined to maintain existing levels for some time to come.

Among the interesting building projects at Newark, N. J., which have developed to a definite point during the past fortnight are a new market building to cost in the neighborhood of \$300,000, and a cooperage works to cost \$55,000. The first noted structure will be erected by the Co-operative Market Co. on a site acquired at Hunterdon Street, Fifteenth Avenue and Bergen Street. The structure will be of brick and steel, of a size to afford about 60,000 sq. ft. of floor space. It is expected to inaugurate construction within a month, having the market ready for occupancy by October 1. The cooperage works will comprise a two-story brick building, about 89x100 ft., to be constructed by the Schofield Oil Co., at its plant on Avenue R. It is proposed to commence construction work at once.

Two interesting building enterprises are now being considered at Trenton, N. J., covering the erection of a large hotel and new bank building. The hotel project is now taking definite shape and a campaign is under way to secure local subscriptions to the amount of \$500,000 to provide for the construction of the new hostelry. Pottery and clay interests are taking an active part in this work to make the affair a success, and among the subscriptions received up to the present time are two from the Maddock potteries, covering a \$10,000 fund from the Thomas Maddock's Sons Co. and \$5,000 from the Maddock Pottery Co. The new bank building is being considered by the First National Bank, to comprise an addition to this structure. The extension will be located on the site of the Baker building which was recently destroyed by fire. The bank acquired this site some time ago for a consideration of about \$100,000, and no estimates of cost have as yet been made to cover the proposed new addition.

Clay miners and manufacturers in the Raritan River section are awaiting an early turn for the better. At the present time, practically all of the industries of this nature are operating at considerably reduced capacities, some even below 50 per cent. of normal output; this condition may be attributed primarily to the quietude in building circles, such items of clay manufacture as floor and wall tile, hollow tile, sanitary porcelain ware and the like, naturally being dependent for activity in production on general construction enterprises. Among these different plants may be mentioned the National Fire Proofing Co., which is now operating three of its four factories in this section, and these at reduced outputs; the Fords Porcelain Works, the Perth Amboy Tile Works and Henry Maurer & Son. The proposed sale of the plants of the General Ceramics Co., Keasbey, by A. Mitchell Palmer, alien property custodian, has again been postponed until some time early in February. This delay, it is said, is due to the fact that accountants working on the books of the company have not completed their inquiry.

New York

The Rochester (N. Y.) Brick & Tile Manufacturing Co. will hold its annual meeting early in February at its offices in the Powers Block. E. J. Rich is secretary.

INSURANCE AGAINST FIRE At Actual Cost

The Manufacturers of Clay Products at Reciprocal Insurance Bureau, offers you an opportunity to come in and insure against fire with preferred risks that are of your own class and engaged in the same line of business. This Bureau saves you the expense of paying for (1) enormous overhead, (2) agents' commissions, (3) companies' profits. You are assured of greater safety, co-operative assistance of a practical kind, and better service.

A large Brick and Tile plant owner writes:

"We can truthfully say we have never had more prompt and satisfactory adjustment of claim than in this case."

Write us for rates and our plan to render better service and greater safety.

**Manufacturers of Clay Products at
Reciprocal Insurance Bureau
29 S. LA SALLE ST., CHICAGO**



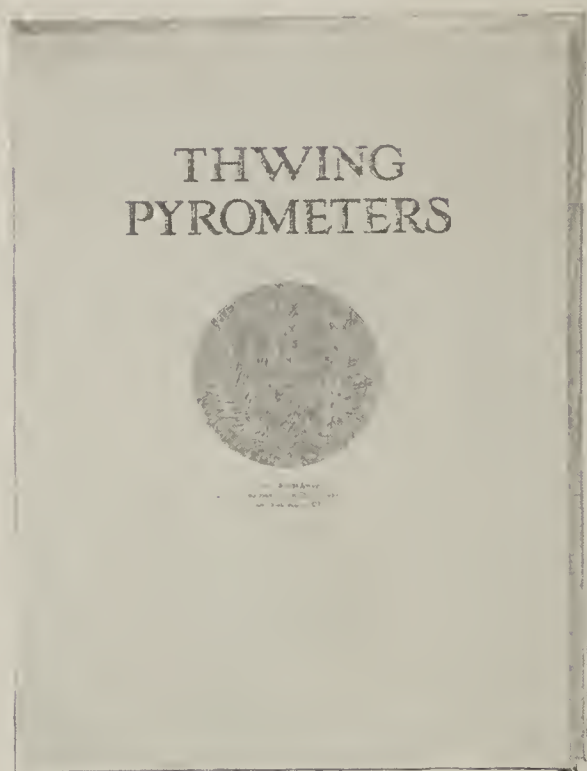
Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

**THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO**



Your Copy Is Ready For Mailing

Send For It Today

Here's a book that everybody with heat control problems ought to read—not a mere catalog of Thwing Thermo-Electric, Radiation and Resistance Pyrometers, but an engineering discussion of important economies and possibilities—a collection of good hints and advice on how to get accurate heat control with inexperienced labor, how to make conscientious men more valuable, how to detect careless firing and compel proper attention, how to get a higher percentage of **first class** ware in shorter time and with less (often **very much less**) fuel, and with fewer seconds.

Among interesting subjects on which every one interested in heat treatment should be posted, are included the following—Proper use and comparative advantages of multiple recorders and indicators for pyrometers—Base-Metal vs. platinum thermo-couples—Correction of cold-end error—Protection and mounting of thermo-couples—Advantages of high-resistance galvanometers—Theory of thermo-electric, radiation and resistance pyrometers—Conversion of Centigrade to Fahrenheit temperatures and vice-versa—Calibration of pyrometers—Helpful wiring suggestions—and miscellaneous data on heat treating temperatures in brick and ceramic industries.

In sending for your copy, tell us your conditions and troubles so that we can give you additional interesting data applying to your individual conditions.

THWING INSTRUMENT CO.
3336 Lancaster Avenue Philadelphia

The longevity of brick in service is exemplified in connection with property in the Greenwich Village section of New York City, which has just changed hands. About 1839, or a little prior to that year, Z. Volney King & Brother built a plant consisting of eight seven-story and one two-story brick buildings at West and Horatio Streets in this section, to be used as plaster mills. These structures have been used continuously since this time and have now been sold to make way for a large commercial building on the site.

There is little doing at the moment at the different brick yards at Haverstraw, Glasco and other Hudson River points. The majority of the plants have been closed down, including those which operate thruout the winter under normal building conditions. Among these latter may be mentioned the yards of Washburn Brothers, at Glasco; this company has shipped a large quantity of brick to its Jersey City, N. J., yards, where it is being held in the sheds and covered on scows alongside dock for general distribution. The large supply of brick in the New York market is unquestionably responsible for the cessation of activities by the usual all-winter plants, coupled with the quiet period now being experienced in the building trades.

Ohio

Columbus manufacturers and jobbers in brick and other clay products have arranged to attend the big Chicago convention in force. It is believed that all of the factories and dealers in Central Ohio will be represented at the meeting, which will be one of the most important in the history of the brick business in the country.

Just to show that prices are not as high as a year ago, it is learned that a construction project figured by a Columbus, Ohio, architect a year ago reached approximately \$55,000. The war compelled the project, which is the erection of a school building, to be laid aside for a while and it was refigured by the same architect, retaining all of the original construction and now it figured \$44,000.

Reports in Cincinnati, Ohio, show that for the month of January, 1919, there were a larger number of building permits issued than for the same month last year, but the cost of the improvements this year are lower than the same month a year ago. There were 586 permits issued for January, 1919, and the cost of the same represented \$150,260, and for the same month last year there were 516 permits issued that called for \$781,895.

Pennsylvania

Four one-story buildings and two two-story buildings will be added to the Hamburg Sanatorium for Tuberculosis, at Hamburg, Pa., this spring and summer and the contract for construction work has been awarded to Edwin Fay & Sons, Philadelphia, for a total outlay of \$343,800. All of the buildings will be constructed of hollow-tile and concrete with red asbestos shingle roofs.

New construction work of worth-while nature is at a low ebb at Philadelphia and vicinity at the present time. While brick men and those connected with the general building trades view the situation with an optimistic attitude, all are awaiting definite action, or substantial evidence that a rebound of construction work is on the way. Things point in this direction—of that there can be no question, and many thoroly familiar with the situation maintain that a number of important projects will mature soon.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

The New Type 00 Series of Thews

Of particular interest to clay workers at this time when plans are being formulated for big business, is the new Type 00 Series of Thews. Available for either shovel or crane service, this machine has an exceptionally wide range of usefulness, a feature that will prove decidedly advantageous and profitable in the digging of clay or the handling of miscellaneous materials about the plant.

This Type 00 may be equipped with steam, gasoline or electric power.

For steam operation, independent double reversing engines are employed for the hoisting, swinging and crowding movements. For gasoline and electric service, there is used a single motor which operates at constant speeds, the various motions being controlled thru reversing frictions.

Gasoline and electric shovels are much favored, because with them operating expense continues only during the actual digging of clay. To start the gasoline shovel, simply crank the engine and engage in the clutch. The electric shovel is started or stopped instantly by throwing on the switch or disconnecting it. No boiler or freezing troubles are encountered with gasoline or electric power.

When equipped as a shovel (Fig. 1), the Type 00 is regularly mounted upon trucks with wide-tired traction wheels, and with both hand and power steer. It is self-propelling at the rate of $1\frac{1}{2}$ miles per hour.

Shovel boom is of the exclusive Thew Horizontal Crow design which is particularly suitable for the single motor gasoline or electric service.

Working weight of this shovel is 14 tons, and a $\frac{1}{2}$ -yard dipper is regularly used. The shovel will dig any clay, earth or thoroughly blasted material at the conservative rate of one complete dipper per minute or 300 cubic yards per 10 hours.

While light in weight and limited in power, the Type 00 is an entirely reliable machine for excavating operations of a not extremely difficult nature and where large outputs are not needed. It is not intended to supersede the larger Thew shovels, altho under many conditions it will meet requirements equally well.

By the addition of an auxiliary shaft carrying two drums and the substitution of a longer and lighter boom, the shovel is converted into a double-drum crane (Fig. 2) capable of handling a $\frac{1}{2}$ -yard clam shell bucket, with

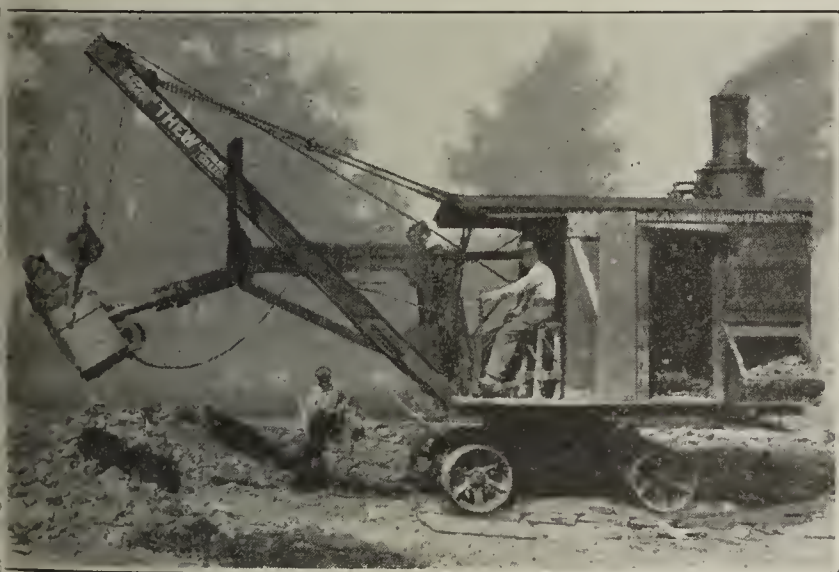


Fig. 1, Thew Type 00 Equipped as a Shovel

Have You Consulted A Dryer Engineer?

The artificial drying of materials may be simple in theory, but it is often complicated in practice. During 35 years we have developed dozens of special drying machines and have discovered hundreds of facts which it is necessary to know and apply in order to handle successfully such materials as common brick, paving brick, fire brick, drain tile, conduits, flue linings, and other clay products.

**"Proctor" for All Clay
DRYERS Products**

Standard machines are made for drying material on rack cars and for drying stiff-mud and dry-pressed brick or hollow ware. Special PROCTOR DRYERS are made according to the plan of your space conditions and to handle your products to the best advantage.

We have a skilled engineering staff, including traveling engineers and an experimental department, all of which are at your service for the solution of your drying problems.

Whatever your individual drying needs, let us know and give us your conditions fully so we will be able to reply accurately and promptly.

Philadelphia Textile Machinery Co.

SEVENTH STREET AND TABOR ROAD, PHILADELPHIA, PA.

PROVIDENCE, R. I.

CHICAGO, ILL.

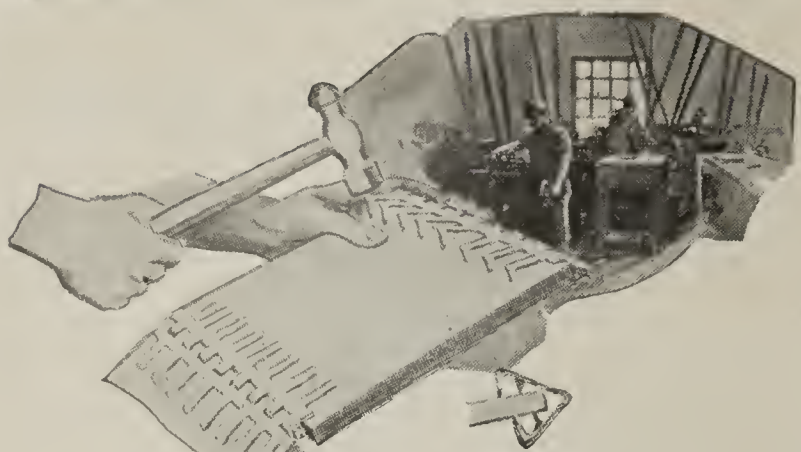
CHARLOTTE, N. C.

Howard Building

Hearst Building

Realty Building

HAMILTON, ONT., CAN., W. J. Westaway, Sun Life Building



ALLIGATOR

Belt Strength

is no greater than the strength of the joint. A three ton tensile strain on a six inch by six ply canvas belt joint is the official test which

Alligator Steel Belt Lacing

withstood at the Armour Institute. Alligator Steel Lacing requires no tool but a hammer and any workman can make a smooth joint in a few minutes. This speed, simplicity and strength means an appreciable saving in time, labor and money.

Alligator Lacing is a proved success on all kinds and sizes of transmission belts—from the lightest single leather to the ten ply fabric belting.

This unusual lacing may be obtained thru mill supply dealers or we will send complete descriptive literature and price list, direct on request.

Flexible Steel Lacing Company

Also Manufacturers Flexco and Flexco-Lok Lamp Guards
Dept. A. L. 32, 522 So. Clinton St., Chicago, U.S.A.

a working radius of 25 ft. The auxiliary shaft in no way interferes with the shovel operation, in fact the change from crane to shovel involves only the transfer of booms.

When equipped for gasoline or electric motor, this auxiliary shaft is employed for controlling the dipper crowding motion. All drums are power driven.

For use on narrow gauge industrial railways, the Type 00 crane superstructure is mounted upon double tracks, distributing the weight over eight wheels. Inasmuch as the usual gauge of such railways is 60 centimeters (24 inches), it is evident that the use of jacks or outriggers is necessary in crane operation.

Summed up, the new Type 00 Series represents the acme of design and construction so far achieved by the Thew Automatic Shovel Co. which initiated the full-swing



Fig. 2, Thew Type 00 Converted into a Double Drum Crane excavator in this country and has since devoted its undivided attention to the development of this type of equipment. Over fifty of these Type 00 Thews were shipped during 1918.

✱ ✱ ✱

"They Never Fade"

This is the claim made for Ricketson Mortar Colors and they have an interesting booklet telling why this is true. The Ricketson process of manufacture eliminates all but the absolutely stable oxides, and only oxides of the same degrees of color intensity are used.

These colors are furnished in red, brown, chocolate buff, purple and black, and from these basic colors a wide variety of tints can be made.

✱ ✱ ✱

"Hill Clutch Equipment"

The accompanying illustration shows the bulletin "Hill Clutch Equipment" distributed by the Hill Clutch Co. Cleveland, Ohio, from time to time. Each issue is devoted to a full description

with illustrations, of some power transmission machinery installation made by them in different industries.

Many of the illustrations show how it is possible to install an efficient drive over coming certain difficult local conditions, and possibly an idea gleaned here or there from the pages of this bulletin would give valuable help to men in other industries as well.

Send your name and address to the Hill Clutch Co. Cleveland, Ohio, and they will be glad to send you copies of the bulletin regularly.

✱ ✱ ✱

The K-B Pulverizer Co., sole manufacturers of the crusher familiarly known as the K-B, recently removed from their former address 86 Worth Street, to 70-71 Worth Street, New York City.



Three Big Paper Mills in Monroe, Mich., All Using Hill Clutch Equipment

Bulletin B

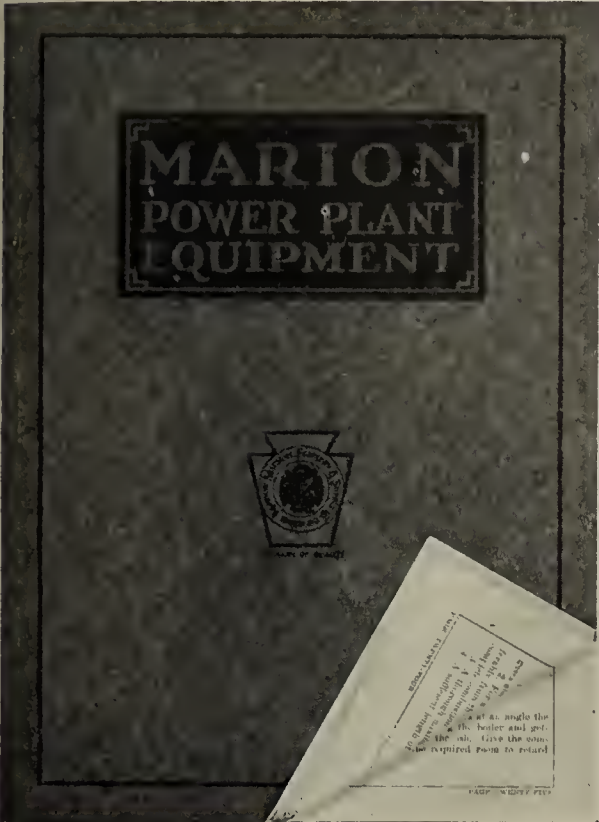


Fig. 1 - Bostons and Sons' Co. Mills
Fig. 2 - Jones-McClellan Paper Co. Mills

“Marion Power Plant Equipment”

In their new catalog on power plant equipment, the Marion Machine Foundry & Supply Co., Marion, Ind., illustrate and describe boiler grates, portable kiln grates, stationary grates, boiler fronts, dead plates, etc. Then in the third section of the catalog the subject of soot blowers is covered very completely.

It's a helpful book to the man in the power plant, and a copy will be sent on request—if you are interested.



E. W. Dow

E. W. Dow needs no introduction to the clayworking fraternity. His father before him was a brick manufacturer for forty years. “Ed,” as he is familiarly known, has been before the industry for twenty years, several of which he spent with the American Clay Machinery Company. Mr. Dow has recently joined the Stevenson Company, of Wellsville, Ohio, manufacturers of pans, sewer-pipe presses, crushers, and other clay-products equipment. He will have charge of the territory between Pittsburgh and Chicago, making the former city his home for the present.



E. W. Dow



Look for the
Green Edge
and **GANDY**
Trade mark!

That's the only caution necessary to sound to buyers who want to be sure they are getting genuine *Gandy* original stitched cotton duck power and conveyor belts.

All *Gandy* BELTING is red in color, and the bright green painted edge and trade-mark are plainly visible.

These two distinguishing marks are on every *Gandy* BELT. They're proof of our own faith in our product—our bond to you that we stand back of every inch of *Gandy* BELTING guaranteeing to the limit the material and workmanship, and providing engineering service that insures the very best results.

Gandy gets all the pull from the pulley.

Look for the green edge and *Gandy* trademark!

Yours for service,
“On-the Job” *Gandy*
Service Manager

The Gandy Belting Co.
732 W. Pratt Street Baltimore, Md.
New York Branch: 60 Warren Street



WHAT THE WAR DID

FEDERAL TRADE INFORMATION SERVICE

EDITORIAL AND
SERVICE OFFICE:
1425 G STREET
WASHINGTON, D. C.



PUBLICATION AND
BUSINESS OFFICE:
31 NASSAU STREET
NEW YORK CITY

Vol. IX, No. 49

FRIDAY, NOVEMBER 29, 1918

This publication is telegraphed by leased wire from the Capital, printed in New York and mailed, letter postage, daily before 9 P. M. to subscribers throughout the United States.

Subscribers to this Service are supplied on request with copies of laws; bills in Congress; decisions of Federal departments and courts, and any other documents. In ordering documents bearing numbers please insure accuracy by giving titles as well as numbers. Address all requests for documents to the Publicity Corporation, 1425 G Street N. W., Washington, D. C.

OPERATION OF LABOR RECRUITING

Telegram to all Federal directors, United States Employment Service:

Our plan of operations in connection with placing representative of labor department in every camp under order of Adjutant General dated November 23 for the establishment by this service of turning soldiers in every city being discharged to seek employment. Task

CLAY PRODUCTS INDUSTRIES SAVE 1,381,000 TONS OF COAL

Official reports from the clay product industries, covering the first six months of 1918, show a saving of 1,381,000 tons of coal, resulting from the orders issued by United States Fuel Administration restricting the amount of fuel to be used by plants in this industrial group. Restrictive orders were made necessary in order that essential war activities might not suffer for an adequate supply of fuel.

CONTRACT CANCELLATION POLICY

The Secretary of War authorizes the following: Where it becomes necessary to discontinue the production of clay products, are no longer necessary.

The above extract from the Government Report shows that the Clay Industry saved 1,381,000 Tons of coal in six months.

To save this coal the Government cut down the production of clay products as follows:

"Face Brick, Common Brick, Paving Brick, Terra-Cotta, Roofing Tile, Floor Tile, Wall Tile and Sanitary ware, fifty per cent. Hollow Tile, Drain Tile, and Sewer Pipe, twenty-five per cent. Stone Ware fifteen per cent.

In other words by making practically THE ENTIRE CLAY INDUSTRY close down for HALF A YEAR a saving was made of 1,381,000 Tons of coal.

The plant equipments representing millions upon millions of capital idle half the time.

BRICK *and* CLAY RECORD

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No. 4

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

Promotion Paramount

IT WILL NOT REQUIRE any particular mental keenness on the part of he who reads the accounts of the recent annual meetings of the American Face Brick Association, the Face Brick Dealers' Association of America, and the Common Brick Manufacturers' Association of America, held in Chicago, to see very plainly that advertising and publicity is an all absorbing theme.

True, this has been the subject for discussion at previous meetings, almost time out of mind, with little accomplishments resulting therefrom, but this year those who attended the above mentioned meetings know that the brick manufacturers and dealers are thoroly in earnest about promotion. They have seen what those who manufacture cement and lumber, and grow raisins and oranges, and what not, have been able to do with a little money spent in the right direction. The brick manufacturers and dealers also realize that unless they spend some money in a similar direction they will have little to spend for any purpose, for the simple reason that their business will gradually pass into oblivion.

It is almost certain now that the American Face Brick Association will be able to raise a million dollars to be spent in three years for advertising face building brick in a national way. A sufficient number of additional signatures to the association contract were secured at the seventh annual meeting in Chicago to make the movement an almost certain success. Not wishing to be outdone absolutely by the manufacturers' promotion plans, many of the dealers have indicated a desire to spend fifty cents for every dollar expended by the manufacturers, for local advertising. If this is really done in several cities of the United States, it will mean a tremendous forward movement for brick as a building material, and will go a long way toward bringing back some of the lost profits of previous years.

The common brick manufacturers are earnestly discussing a promotion scheme and the board of directors of the Common Brick Manufacturers Association of America has been instructed to proceed with preliminaries. There is no reluctance on the part of many of the common brick manufacturers to spend a large sum of money. It is simply a question of time before their campaign is launched. The will to do, exists. Time will see its realization.

If the above mentioned plans do not miscarry they will give the brick manufacturing business a new lease on life and put the industry in the high position which it should now occupy, but which thru neglect of promotion has been lost to other materials.

Let us hope that nothing will hinder the prosecution of these plans and that the next three years will see considerable "copy" in national mediums carrying the message of the merit of brick to the nation's householders and others interested in building.

* * *

Call 'Em Factories, Not Yards

WE ARE APT thru long usage, to employ words and phrases concerning our business which, because of their familiarity, do not appear in their true light with regard to their effect upon the clay products manufacturing business.

One of these hackneyed phrases is the word "yard" as applied to the place where brick are manufactured. Now, it is perfectly natural for those who have grown up in the business to refer to the brick manufacturing plant as a "yard" because that word has been handed down to us, it seems, from antiquity, but the newer generation ought to learn, the older figures in the business to adopt, a cognomen that would more properly describe the establishment where brick are made and burned.

Some branches of the industry which have been a little more prosperous than the others, have acquired the habit of using the word "factory" or "plant" when describing their establishment. This adds the proper dignity to the place where brick are made.

It is just a little psychological point that ought to be developed for the advantage of the industry. The more we talk about the clay products manufacturing business as being a real "industry" and its units being "factories" or "plants," the more respect we will command in the eyes of the public and the business world as a whole.

* * *

Develop the Dealer

AN ADVERTISING MAN said to a group of brick manufacturers recently, "The sky is the limit of advertising. If it is properly carried on, the proper amount of push put behind it, and if properly conducted, advertising pays. It is not a

panacea for all kinds of business ills. It won't take a broken down business and build it up without other efforts."

In other words, for the brick manufacturer to get the most out of his advertising, he must see that his distribution is properly taken care of. Some manufacturers of brick have a large force of salesmen, others have not. There are probably more in the latter case than in the former.

One of the things that the average brick manufacturer has woefully neglected is the matter of dealer distribution. He has overlooked this very important factor in the plan to get his goods on the market. It is true that the manufacture and sale of common brick, in most cases, is a local proposition, but there are many sections of the country where brick manufacturers are few and far between and where it is advisable to employ the dealer.

It might be said here that the dealer is not a perfect man. There are no wings sprouting from the region of his shoulders and he wears no halo on his head. He is simply an ordinary human being with his frailties and weaknesses. However, the dealer has great possibilities for the brick manufacturer if he would only look into them. The dealer is on the ground and knows his people. He is able to follow a job from start to finish, if he has a mind to.

The principal thing for the brick manufacturer to do is to choose a good dealer and then lend him some cooperation in getting brick used in his locality. This is an important matter and should be attended to before one can expect a full return from a national advertising campaign.

Using Age to Display Quality

AT A RECENT MEETING of brick manufacturers, Geo. A. Parry, of Boston, exhibited an interesting and instructive little picture of what he claimed to be the oldest brick house in America, which was built in 1634 and of brick.

Such an exhibition of old and historic houses is not a new idea. The lumber interests have done just that thing again and again in their national advertising. Old colonial homes, claimed to have been built of white pine, yellow pine, or some other kind of wood, have stared us in the face time and time again from such publications as the "Literary Digest," the "Saturday Evening Post," the "Ladies Home Journal," and so forth.

Granted, that the houses were built of wood and at the period stated. Is it possible to get a selected white pine of a quality and grade such as was used in the erection of these old historic houses? We ask the question. It is full of significance.

On the other hand, an absolute knowledge and certainty characterizes the quality of brick that are made by present-day methods. We know that better brick are made now than were made at the time of the house which was built in 1634. In other words, a man need not be afraid that he is going to get an inferior quality of brick if he goes to a dealer or manufacturer these days and wants some of the material that has been used to make houses that have stood the tests of time as the one shown by Mr. Parry, also William Penn's house in Fairmont Park, Philadelphia, and many others of historic fame.

Lack of Space

will not permit the publication, in this issue, of many of the exceedingly interesting and valuable papers read at the American Face Brick Association, the Common Brick Manufacturers' Association of America and the Face Brick Dealers' Association of America annual meetings, as well as the N. B. M. A. convention. It is the intention to print most of these and they will appear in the next and succeeding issues as space permits

Be Sure Not to Miss These Important Messages

FACE BRICK MAKERS to S

*Sufficient Number of Manufacturers Have Now Signed
Consumer Advertising Campaign—Seventh Annual Meeting
Enthusiastic Ever Held—Frank W. Butterworth Ele*

THE OUTSTANDING FEATURE of the annual meeting of the American Face Brick Association, held at the Edgewater Beach Hotel, February 10 to 12, was, without question, the signing up of a sufficient number of additional manufacturers to make the proposed publicity campaign certain. It will be remembered that more than a year ago it was decided to launch a promotion campaign in favor of face building brick in which eighty-five per cent. of the face brick manufacturers of America would participate. This would mean that manufacturers of not less than six hundred million brick per year would have to sign the agreement to pay the necessary fifty cents per thousand every twelve months for a period of three years. The work of getting signatures was started but the United States entered the war, and in the light of subsequent events, it was deemed unwise to push the matter until the war had been won and peace returned.

Just prior to the convention at the Edgewater Beach Hotel, there had been considerable doubt as to the possibility of getting producers of six hundred million brick signed up even this year, but happily, these fears proved groundless, such excellent work being done by the special sales committee at the convention that the requisite number of signers is now well within sight. The sales committee, to which so much credit is due for the excellent work of getting signatures, was headed by William T. Mathews, sales manager of the Claycraft com-



B. Mifflin Hood, of the B. Mifflin Hood Brick Co., Atlanta, Ga., Telling Some of the "Boys" About the Good Fishing Down in Florida. Among Those Who Are Listening to This "Fish Story" May Be Recognized: O. K. Edwards, Pacific Face Brick Co., Portland, Ore.; Harry S. Hamilton, McArthur (Ohio) Brick Co., and Walter Pursell, manager, Pursell Co., Cincinnati, O.

panies, Columbus, Ohio. He was ably assisted by Paul B. Belden, Belden Brick Co., Canton, Ohio; B. Mifflin Hood, B. Mifflin Hood Brick Co., Atlanta, Ga.; B. W. Ballou, Kansas Buff Brick & Mfg. Co., Buffville, Kan.;

H. E. Stringer, Hydraulic-Press Brick Co., Washington, D. C.; John H. Black, Jewettville Brick Co., Buffalo, N. Y.; and D. H. Miller, Milton (Pa.) Brick Co.

An unusual large number of face brick manufacturers and others interested in the welfare and progress of the industry, gathered in the Black Cat room of the Edgewater Beach Hotel at 2:30 P. M. Monday, February 10. The room was well filled with a representative gathering. Interest and attention was good.

Almost the first item on the program, outside of the usual formalities incident to the opening of any convention, was the annual message of President George A. Bass, of the Hydraulic-Press Brick Co., St. Louis, Mo. Mr. Bass said:

TIMELY MESSAGE OF PRESIDENT BASS

Each successive meeting has been regarded as a critical period in the life of the association. Certain it is that if we do not go forward we must necessarily go backward. Are we now making progress? Are we in fact a going concern?

Probably no industry was formerly more demoralized than ours. Producers of a valued and ancient product, we may have commanded honor and respect in our community, but as competitors, in our dealings affecting each other, we did not generally recognize any standard of ethics.

Our friends were more apt to be distant makers of competitive materials than our neighbors in our own industry. All were lone hunters and under suspicion.

If a fellow manufacturer was in trouble there was rarely a helping hand extended him but rather an additional skid found to keep him on his way.

If one sought to develop business in competition with other lines, the chief knocks came from his neighboring brick-maker. We were more interested in sales developed by others in distant cities than in promoting work in our own locality. We sold at a loss rather than permit of another's gain.

If we ever joined hands it was simply a temporary understanding for the purpose of eliminating some fellow competitor for whom there was mutual fear and dislike. A



Charles F. Herrmann, President, U. S. Brick Co., Tell City, Ind., Absolutely Refusing to Have His Picture Taken.

AND *a* MILLION DOLLARS

*ation Contract to Insure Starting of Three-Year National
dgewater Beach Hotel, Chicago, February 10 to 12, Most
ident—Association Headquarters to be Moved to Chicago*



T. W. Moulding, of the
Thomas Moulding Brick Co.,
Chicago.

ity and merit and fully accord credit to those we did not even deign to know.

As we have watched developments the past year we have all been impressed with the rapid changes and further marked progress in business methods. We are in a transitory period of a strange new era and no thinking man can now compare his business in the light of even one year ago.

You were in Atlantic City with 4,000 other men comprising over 400 war service committees, representing all lines in all business that had been organized either by the Government itself or appointed by associations already organized, that had been developing for their period of service during the war. There was all seriousness and no discord—unanimity of feeling and sympathy, and right there under impressive circumstances there seemingly grew a strange realization of the meaning of recent history, as effecting not only the democracy, but the business of the world.

NEED BETTER MORALE

During my terms as your president I have had opportunity to form some conclusions, and while I think well of the progress made, and believe you easily have the possi-

specification or a signed contract only stimulated renewed effort. We indulged in "phony" quotations and the wiley contractor traded us out of enough to have made plenty for all. Our friends were of the enemy, our ethics confined to text books.

In the main just primitive competition of ye olden knock-down, drag-out, rough-neck type, neither asking nor giving quarter.

Most competitive methods in all business were similarly bad. Reforms have come and methods of dealing have so changed that the time honored principle of the survival of the fittest no longer holds, and we now condemn as unfair much that we formerly commended.

Associations of all kinds have aided greatly in this propaganda. As we have become acquainted with each other, our horns have gradually disappeared and we see virtues unsuspected and recognize and acknowledge abil-

bility of a most helpful and valuable organization, it is my chief observation that there is now great need in this Association for a better morale.

We are neither trained nor disciplined and are not ready to go "over the top" and contend with our competitors in other lines. Neither are we sufficiently self-respecting. The fire brick man throws out his chest, talks about his *factory* and his *art* with enough assurance and mystery to hold attention and be impressive. We, on the other hand, too often call our equally useful product, *commons*, and refer to our expensive factories, as *yards*. Ours is no longer a mule, wheel, moon and sun proposition. More publicity, with a higher dignity and a better understanding, would produce true respect, a genuine interest, and a profitable appeal.

Put a trade mark on your product and you at once add to your responsibility, and automatically are more zealous in maintaining your good name.

Ours should be a common cause for a common purpose, the promotion and increase in masonry construction—anywhere and everywhere—increase the use and total sales, and we need have no concern for individual sales.

Will we recognize and seize our opportunity? I, personally, propose to make no further special plea, it is for you to recognize your own great necessity and responsibility. I finally, however, simply call to your attention the painful fact that yours is the only great industry not generally known—yours is the only voice not generally heard.

MUST BROADEN VISION

Should we have sufficient wisdom, ability, and energy to undertake and sustain a publicity campaign, it will be not



Guy P. Dean, Secretary and Treasurer, Pfotenaur-Nes-bit Co., New York; R. O. Cosier, formerly with Frederick B. Stevens, of Detroit, Mich., and H. F. White, Hocking Valley Products Co., Columbus, Ohio.

only desirable but necessary, that we broaden and extend our vision. We must forget the contentious part, look beyond each individual matter and give estimate on the basis of

hazardous war period. We had many serious and irksome regulations and restrictions that were fortunately compulsory on all. As we now enter the uncertain period of re-

A Report of the Convention in a Nutshell Resolutions Passed by the Face Brick Manufacturers

1. *How is Business?* Reports from Divisions indicate that the industry may reasonably expect 65 per cent. of the normal volume of business, measured quantitatively, during 1919.

2. *Cost of Production as Compared with 1916?* Reports from Divisions indicate that the industry may reasonably expect the cost of production to remain 70 per cent. higher than in 1916.

3. *Conditions of Stocks and Orders as Compared with January 1, 1916?* Reports from Divisions indicate there is 40 per cent. of stock on hand and 20 per cent. of unfilled orders as compared with January 1, 1916.

4. *RESOLVED*, it is the unanimous recommendation of the Divisions of the American Face Brick Association that all face brick manufacturers shall immediately harmonize their cost systems with the base plan of the endorsed Association System and that every encouragement shall be given to the plan of cost clearance by interested groups.

5. *RESOLVED*, That the Divisions recommend the price policy be based upon costs of production which shall include added overhead for idle time.

6. *RESOLVED*, That the Divisions recom-

mend that the Committee appointed by the President of the American Face Brick Association to confer with other clay interests on the matter of freight rates, shall constitute the Traffic Committee of the American Face Brick Association, and shall be given authority to act for the Association.

7. *RESOLVED*, That the Divisions of the American Face Brick Association endorse the promotion plan of the American Face Brick Association and earnestly urge every face brick manufacturer to immediately sign the Articles of Agreement.

8. *WHEREAS*, The Face Brick Industry, by reason of a wide distribution of raw material is menaced by frequent ill-advised and illogical promotions of new plants, and

WHEREAS, This Association has interests in common with the other organizations of the clay industry,

THEREFORE, BE IT *RESOLVED*, The A. F. B. A. favors the creation of a joint bureau, to be equitably supported by the various organizations, and directed by a committee of two from each association to be appointed by the president. The function of the said bureau is to safeguard the common interests of the clay industry.

average benefits. A principle of action should no longer be good or bad, and have our support only on the basis of estimated individual benefit or injury.

We are far from what we may or should be. There have been many errors in judgment and mistakes have constantly been made. Many of us continue thoughtless of others and are still most narrow in our views. Others have been overcautious and slow of development and have as yet but a poor grasp of the association idea.

Much self-sacrificing good work has been done by the willing few, and you are under great obligation to your divisional group chairmen and secretaries, and your war service committees.

Unless, however, we lose the willingness to "let George do it" and wake up and take a serious, active, constant interest that we may together build up strong harmonious divisional groups that will considerably cooperate with all groups, then there can be no hope for the satisfactory solutions of our many serious problems.

We are most fortunate to have so well come thru the

construction there is need that we voluntarily govern and restrain ourselves, lest we too quickly approach quantity production and have price demoralization. United, we will have sufficient courage to wait, hold steady, and get ready to eventually obtain sufficient and proper profits in the coming expansion.

The general report of Secretary-Treasurer R. D. T. Hollowell was the next order of business. It follows:

GENERAL REPORT OF SECRETARY-TREASURER

The abnormal conditions which have prevailed both in this association and thruout the entire industry during the past fourteen months broke into the orderly progress which the association had been making. Altho the organization in 1918 was able in one single effort to again justify its existence, and to over and over again pay its cost of maintenance, on the whole it could not in the face of adverse circumstances pursue its aggressive program. During the last six months of 1918, the organization was quiescent, for the reason that its employes and facili-

ties were loaned to the War Service Committee on Brick. We can all recall the momentous proceedings which were in contemplation just one year ago. We refer to the then proposed curtailment of fuel. The war service committee of this association and its executive committee followed all negotiations most carefully, and association members were given the latest developments by bulletin as fast as the information could be secured. Thru our division meetings, the industry was educated to a full comprehension of what a 50 per cent. curtailment in production would necessitate in the matter of adjustment of prices, and, as a result, all manufacturers who coöperated with this organization or thru its subdivisions, had the benefit of knowing that the majority of the competition had taken protective steps at the beginning of the season while there was yet time.

FREIGHT RATE ON BRICK LARGELY INCREASED

During the early part of 1918, our industry was also upset over the proposal by common carriers to make brick rates on a basis of 65 per cent. of sixth class. While preparations were being made to contest the proposition, if the association, as a whole, should approve such a fight, the United States Railroad Administration took over the majority of the interested lines. Late in May 1918, the United States Railroad Administration issued its Order No. 28, increasing all freight rates effective June 25, 1918, 25 per cent. more or less a general advance of 40 cents per net ton being assigned to brick. By instruction of the board of directors, this association became a complainant in the joint protest made to the United States Railroad Administration on June 18, 1918. As this subject is to be dealt with exhaustively, later in our program, we will not attempt to make further comment here. We would like to take this opportunity and every other possible opportunity, however, to impress upon our people that the matter of freight rates is one of the

most serious of the many serious questions which we must look squarely in the eyes today.

HAD BIG PART IN COMMITTEE ON BRICK

We feel that our association should take considerable pride in the part which it played in the organization, development and management of the War Service Committee on Brick. Posted from the beginning on what was taking place, the members of the association were given an insight into the importance and power of such an organization. As a result, of the twenty manufacturers making up the brick committee, eight were face brick manufacturers, five of whom were members of this association; also, the secretary of this association was chosen to serve as secretary and Washington representative of the brick committee, this offer by the president being immediately sustained by the board of directors by a formal ballot. As the work of the secretary during the last half of 1918 was devoted exclusively to the affairs of the War Service Committee on Brick, with which you are more or less familiar, and which is now obsolete, we will not comment further in that connection.

As the secretary views it, this association has a most wonderful opportunity for splendid performance ahead of it. After weathering the worst storm which can possibly be conceived, the majority of us are still in the ring with a better understanding than ever as to the possibilities in coöperative competition.

SHOULD SIGN ASSOCIATION CONTRACTS

The industry should immediately sign the association contracts and thus insure not only the proper maintenance of the organization but an education of the building public as to the true merits and cost of our product. At the time this report is being written, contracts by manufacturers whose total face brick shipments in 1916 amounted to 267,000,000 have been received. Manufac-



The Big Associational Dinner Which Was Held at the Edgewater Beach Hotel the Night of Lincoln's Birthday, February 12. Approximately Two Hundred and Thirty-Five Brick Men, and Others Interested in the Industry, Sat Down to a Splendid Dinner and Listened to the Inspiring Addresses That Followed.

turers who have advised the writer they expected to sign contracts at the Chicago meeting amount to probably 100,000,000 or more. It is up to every one of our members to begin an aggressive campaign among the manufacturers in their districts for the support of this measure. Every single competitor of face brick, of which we have knowledge, has appropriated large amounts of money for the education of the consuming public, and we are informed on what appears to be reliable authority that our two chief competitors—lumber and cement—have each made appropriations for 1919 well over the \$1,000,000 mark. The plan which has been endorsed by the board of directors of this association is logical, just and equitable. Its success will assuredly produce the most far-reaching benefits for the industry. We earnestly urge immediate action by every plant which has not yet signed its contract.

MODEL BOOKKEEPING FORMS AVAILABLE

It should be mentioned here that since our last annual meeting, Ernst and Ernst have drawn up for the association a set of model bookkeeping forms to accompany the system laid out and endorsed by the association. There is a stock of these forms available for approximately ten complete installations. Complete outfit, comprising 200 copies of each form, will be forwarded, postpaid, for \$48.85, which is approximately one-third of what it would cost to duplicate one set of these forms today. It is suggested that manufacturers interested in obtaining a supply of these forms for practically nothing should apply to the secretary without delay.

FINE WORK OF PRESIDENT BASS

The association has been fortunate in many respects during 1918, but what might be attributed to good fortune can be truthfully credited to the broad and far sighted leadership of the president of the association. Personally, the secretary is deeply indebted to Mr. Bass for his never failing sound and wholesome advice. The whole industry, if it could have seen and appreciated the entire situation, would not stop at a mere rising vote of thanks for the untiring and successful efforts which this man has made in your behalf.

The first session closed with a very able paper by E. H. Scull, manager, system staff, Ernst and Ernst, Chicago, entitled "The Comparison and Use of Vital Information Between Plants in the Same Industry." Perhaps at a later date it will be possible to reproduce this article, together with some of the forms which Mr. Ernst explained so well.

SECOND SESSION

On Tuesday morning, February 11, at 10:00 A. M., the face brick manufacturers gathered to listen to M. F. Gallagher, of Gallagher, Kohlfaat & Rinaker, Chicago, who spoke on "Our Freight Rate Problem." Mr. Gallagher's talk will be reproduced in full in the next or following issue. Every brick manufacturer will do well to read it most carefully.

Mr. Gallagher was followed by Frank J. Pollay, special agent of the United States Department of Labor, Washington, D. C. Mr. Pollay made a very interesting address on "Government Co-Operation for Reconstruction." He analyzed the present situation in the industrial field, particularly with regard to labor, for the benefit of the brick men and told what the Department of Labor was doing to remedy threatening conditions. He mentioned among other things, the work of the department with regard to stimulating building construction,

thus providing employment for the returning soldiers and furnishing an effective antidote for Bolshevism. He urged that all inquiries regarding this special work of the Department of Labor be addressed to the Building Construction Division, 16 Jackson Place, Washington, D. C., where Franklin T. Miller is in charge.

TEN MINUTE TALKS BY DIVISION CHAIRMEN

This was perhaps one of the most interesting features of the convention. The chairmen, one by one, arose and in an informal way painted in a graphic manner exact conditions as they exist in all sections of the country, particularly with regard to the face brick manufacturing business. The following spoke: Eastern Red Brick Association, John H. Black, chairman; Ohio Red Division, Paul B. Belden, chairman; Indiana-Illinois Division, F. W. Butterworth, chairman; Kansas Division, B. W. Ballou, secretary; Iowa Division, William H. Brecht, chairman; Southern Manufacturers, John W. Sibley, and Salt Glazed Division, E. A. Stewart, chairman.

These talks brought out, among other things, that there will be little, if any, change in manufacturing costs during 1919 due principally to the fact that there is little chance for a decrease in wages. In fact, some look for even a slight increase in scales, altho it was said that in some sections it is possible to purchase fuel at somewhat lower figures. Labor is, however, showing increased efficiency. Demand was said to be improving. Altho the speculative builder is no doubt completely out of the market in most localities, still there is some home building developing. At least one of the speakers said that not more than seventy-five per cent. of a normal year could be expected. It was said that demand would develop slowly and that it would not reach an appreciable volume until May or June at the earliest. Some reported low stocks while others said that stocks were very heavy. A very interesting point brought out was the unusual situation that exists this year in starting plant operations. One of the men said that all manufacturers will be greatly surprised by what it will cost them to get their plant in running order again. Good divisional meetings were reported. E. A. Stewart said that any condition this year will be infinitely better than last year. John W. Sibley called attention to the fact that the price of cotton is going down which does not justify an optimistic outlook for the South. He said, however, that the South was developing and that Northerners were coming quickly to the point where they saw the vast possibilities of that section of the country.

THE NEED FOR PROMOTION

This was the subject of five minute talks by members of all divisions as follows: Ohio Red Division, J. M. Adams; Iowa Division, D. P. Mahoney; Indiana-Illinois Division, G. M. Luckett; Buff, Grey and Flashed Division, T. P. Cuthbert; Eastern Red Brick Association, J. C. Fowler; Kansas Division, B. W. Ballou, and Southern Manufacturers, B. Mifflin Hood.

This proved to be a very inspirational part of the meeting and served to back up the efforts of the sales committee which was getting the manufacturers signed up.

The meeting was then adjourned for lunch.

The afternoon of February 11, was devoted to divisional meetings in various parts of the Hotel.

THIRD SESSION

At 11 a. m. on Wednesday, February 12, the meeting was called to order by President Bass. The first order of

business was the presentation of resolutions by the resolutions committee, which consisted of the following division chairmen: Messrs. P. B. Belden, chairman, F. W. Butterworth, E. A. Stewart, F. T. Owens, acting for J. H. Black, B. W. Ballou, acting for J. W. Bogue, W. H. Brecht and G. W. McNees.

RESOLUTIONS

1. *How is Business?* Reports from divisions indicate that the industry may reasonably expect 65 per cent. of the normal volume of business measured quantitatively.

2. *Cost of production as compared with 1916?* Reports from divisions indicate that the industry may reasonably expect the cost of production to remain 70 per cent. higher than in 1916.

3. *Conditions of stocks and orders as compared with January 1, 1916?* Reports from divisions indicate there is 40 per cent. of stock on hand and 20 per cent. of unfilled orders as compared with January 1, 1916.

4. *Resolved*, it is the unanimous recommendation of the divisions of the American Face Brick Association that all face brick manufacturers shall immediately harmonize their cost systems with the base plan of the endorsed association system and that every encouragement shall be given to the plan of cost clearance by interested groups.

5. *Resolved*, that the divisions recommend the price policy be based upon costs of production which shall include added overhead for idle time.

6. *Resolved*, that the divisions recommend that the committee appointed by the president of the American Face Brick Association to confer with other clay interests on the matter of freight rates, shall constitute the traffic committee of the American Face Brick Association, and shall be given authority to act for the association.

7. *Resolved*, that the divisions of the American Face Brick Association endorse the promotion plan of the American Face Brick Association and earnestly urge every face brick manufacturer to immediately sign the articles of agreement.

8. *Whereas*, the face brick industry, by reason of a wide distribution of raw material, is menaced by frequent ill-advised and illogical promotions of new plants, and

Whereas, this association has interests in common with the other organizations of the clay industry.

Therefore, be it resolved, the A. F. B. A. favors the creation of a joint bureau, to be equitably supported by the various organizations, and directed by a committee of two from each association to be appointed by the president. The function of the said bureau is to safeguard the common interests of the clay industry.

OFFICERS AND DIRECTORS ELECTED

The report of the nominating committee was then submitted which reads as follows:

For president, F. W. Butterworth, Western Brick Co., Danville, Ill.; 1st vice-president, S. C. Martin, Kittanning Brick & Fire Clay Co., Pittsburgh, Pa.; 2nd vice-president, B. W. Ballou, Kansas Buff Brick & Mfg. Co., Buffville, Kansas.

The following directors were elected to serve three years: George A. Bass, Hydraulic-Press Brick Co., St. Louis, Mo.; J. H. Black, Jewettville Clay Products Co., Buffalo, N. Y.; W. H. Hoagland, Claycraft Brick Co., Columbus, Ohio; H. R. Beegle, Beaver Clay Mfg. Co., New Galilee, Pa.; F. A. Hoiles, Alliance Brick Co., Alliance, Ohio, was elected to succeed J. P. B. Fiske, resigned; J. M. Adams, Ironclay Brick Co., Columbus, Ohio, was elected to succeed B. W. Ballou; G. B. Lockett, of the Crawfordsville Shale Brick Co., Crawfordsville, Ind., was elected to succeed Mr. Butterworth.

Balance of directors which continue in office are as follows: P. B. Belden, The Belden Brick Co., Canton, Ohio; W. H. Brecht, Boone Brick, Tile & Paving Co., Boone, Iowa; T. B. Cuthbert, Fallston Fire Clay Co., Pittsburgh, Pa.; J. W. Moulding, Thomas Moulding Brick Co., Chicago, Ill.; Charles C. Stratton, Alumina Shale Brick Co., Bradford, Pa.

The report of the nominating committee was adopted and the secretary instructed by a unanimous vote to cast a ballot for the entire list of officers and directors:

The usual cries of "speech" were heard and in response, Frank W. Butterworth, president-elect, said:

PRESIDENT'S ACCEPTANCE

Men, I am not at all insensible of this honor. It certainly is an honor to be elected to the leadership of the American Face Brick Association. It isn't all honor, tho, as I think my predecessor will admit. Following him and such a record as he has set, makes one doubly dubious about his accomplishments.

On looking over the situation and cutting out all "bunk," it seems to me that this association, for the year 1919, has two objectives. The first is to so arrange the face brick industry that upon a resumption of normal business the industry will secure its proper proportional part of the business that there is. This is objective No. 1. The second, it seems to me, is that this association is to do everything in its power, in a legitimate and legal way, to prevent price demoralization until that occurs. (Applause.)

I am accepting this office, men, with those two objectives in mind, and before I formally take it I want to know the feeling of the association towards those two things. No leader, no president can accomplish these things. Nor no secretary or vice-president, nor board of directors or executive committee. These things have to be done and accomplished by the members of this association, and I am going to put it to you right straight out from the shoulder. All who are in favor of those two objectives I am going to ask you to stand on your feet. (Everybody stands.)

With that expression gentlemen, I am going to tell you right in the beginning, each and every one of you is going to be called on to do something. Just what it will be I don't know yet, but I think the secretary and myself can figure out a job for every one of you. We'll try and make it as specific as possible, but we are not going to make it as easy as possible. Most every successful man in the world, it seems to me, does very little himself. He gets somebody else to do it for him. That is going to be the policy of the president of this Association.

I will look it squarely in the face. The end is well worth while. It seems to me that Mr. Pollay knew what he was talking about when he said yesterday, "This country is on the eve of a greater era of prosperity than any country has ever seen." But we must sit still in the boat until that time, and we mustn't rock it. Personally, I will do my best to tide over this period. I thank you. (Applause.)

THE TRAFFIC COMMITTEE

One of the most important matters of business of the convention was the appointment of a traffic committee. This committee, which has authority to act for the association, was composed of H. E. Stringer, manager, Hydraulic-Press Brick Co., Washington, D. C., chairman; P. C. Hodges, traffic manager, Claycraft Mining & Brick Co., Columbus, Ohio; J. W. Moulding, treasurer, Thomas Moulding Brick Co., Chicago, and G. P. Lockett, secretary, Crawfordsville Shale Brick Co., Crawfordsville, Ind.

After the adjournment of the third session there was a meeting between the executive committee of the association and the traffic committee. At this meeting the traffic committee was authorized and instructed to file a formal complaint before the Interstate Commerce Commission. This committee is also to co-operate with other committees whenever in the judgment of the traffic committee that course is best to pursue.

SECRETARY'S OFFICE TO BE MOVED TO CHICAGO

At a meeting of the board of directors of the American Face Brick Association on Wednesday afternoon, February 12, R. D. T. Hollowell was re-elected secretary-treasurer for the coming year. It was also decided that the office of secretary-treasurer be moved to a permanent point, the consensus of opinion being that this point should be Chicago. Other matters of importance were brought up and disposed of, including a motion that the executive committee be requested to formulate a program involving a publicity campaign whenever it appears that such a campaign will be successful.

Speaking of the publicity campaign, it is interesting to know that on February 17, 1919, the following companies, representing total shipments of four hundred and eleven million face brick during the year 1916, had signed the association's articles of agreement:

FIRMS WHO HAVE SIGNED CONTRACT

Acme Brick Co., Cayuga, Ind.
Acme Brick Co., Marietta, Ohio
Adams Clay Products Co., Martinsville, Ind.

Alliance Brick Co., Alliance, Ohio
 Alton Brick Co., Alton, Ill.
 Alumina Shale Brick Co., Bradford, Pa.
 Auburn Shale Brick Co., Auburn, Pa.
 Beaver Clay Mfg. Co., New Galilee, Pa.
 Belden Brick Co., Canton, Ohio
 Birmingham Clay Products Co., Birmingham, Ala.
 Boone Brick, Tile & Paving Co., Boone, Iowa
 Bradford Pressed Brick Co., Bradford, Pa.
 Brazil Clay Co., Brazil, Ind.
 Bush & Company, W. G., Nashville, Tenn.
 Claycraft Brick Co., Columbus, Ohio
 Claycraft Mining & Brick Co., Columbus, Ohio.
 Colonial Pressed Brick Co., Mogadore, Ohio
 Crawfordsville Shale Brick Co., Crawfordsville, Ind.
 Darlington Clay Products Co., Darlington, Pa.
 Decatur Brick Mfg. Co., Decatur, Ill.
 Everhard Company, The, Massillon, Ohio.
 Fallston Fire Clay Co., Pittsburgh, Pa.
 Ferro Brick Co., Watsonstown, Pa.
 Fultonham Texture Brick Co., East Fultonham, Ohio
 Hanover Brick Co., Hanover, Ohio
 Hocking Valley Fire Clay Co., Nelsonville, Ohio
 Hocking Valley Products Co., Columbus, Ohio
 Huntingburg Pressed Brick Co., Huntingburg, Ind.
 Hydraulic-Press Brick Co., St. Louis, Mo.
 Ironclay Brick Co., Columbus, Ohio
 Jewettville Clay Products Co., Buffalo, N. Y.
 Kansas Buff Brick & Mfg. Co., Buffville, Kansas
 Keim Brick & Tile Co., Louisville, Ohio
 Kittanning Brick & Fire Clay Co., Pittsburgh, Pa.
 Kittanning Clay Mfg. Co., Kittanning, Pa.
 Kushequa Brick Co., Kushequa, Pa.
 Legg Brick Co., Calhoun, Ga.
 McArthur Brick Co., McArthur, Ohio
 Marietta Shale Brick Co., Marietta, Ohio
 Milton Brick Co., Milton, Pa.
 Poston Paving Brick Co., Crawfordsville, Ind.
 Ridgway Brick Co., Ridgway, Pa.
 Standard Brick Co., Crawfordsville, Ind.
 Standard Brick Mfg. Co., Evansville, Ind.
 Stephenson, L. L., Lovick, Ala.
 Straitsville Impervious Brick Co., New Straitsville, Ohio
 Streater Brick Co., Streater, Ill.
 Stuempfle's Sons, David, Williamsport, Pa.
 Toronto Fire Clay Co., Toronto, Ohio

U. S. Brick Co., Tell City, Ind.
 Upper Kittanning Brick Co., Jersey City, N. J.
 Western Brick Co., Danville, Ill.
 Pittsburgh-Callery Brick Co., Pittsburgh, Pa.

**PARTIAL LIST OF MANUFACTURERS REPRESENTED AT
 THE SEVENTH ANNUAL MEETING OF THE
 AMERICAN FACE BRICK ASSOCIATION**

Legg Brick Co., Calhoun, Ga.
 Hydraulic-Press Brick Co., Chicago, Ills.
 Hydraulic-Press Brick Co., Cleveland, Ohio.
 Hydraulic-Press Brick Co., Davenport, Ia.
 Hydraulic-Press Brick Co., DuBois, Pa.
 Hydraulic-Press Brick Co., Indianapolis, Ind.
 Hydraulic-Press Brick Co., Kansas City, Mo.
 Hydraulic-Press Brick Co., Minneapolis, Minn.
 Hydraulic-Press Brick Co., Philadelphia, Pa.
 Hydraulic-Press Brick Co., St. Louis, Mo.
 Hydraulic-Press Brick Co., Washington, D. C.
 The Everhard Co., Massillon, Ohio.
 Milton Brick Co., Milton, Pa.
 Crawfordsville Shale Brick Co., Crawfordsville, Ind.
 Western Brick Co., Danville, Ills.
 Birmingham Clay Products Co., Birmingham, Ala.
 Standard Brick Co., Crawfordsville, Ind.
 Kansas Buff Brick & Mfg. Co., Buffville, Kans.
 Poston, C. E., Martinsville, Ind.
 Alton Brick Co., Alton, Ills.
 Ironclay Brick Co., Columbus, Ohio.
 Stephenson, L. L., Birmingham, Ala.
 Bush & Co., W. G., Nashville, Tenn.
 Standard Brick Manufacturing Co., Evansville, Ind.
 Poston Brick Co., Springfield, Ills.
 Twin City Brick Co., St. Paul, Minn..
 Bradford Pressed Brick Co., Bradford, Pa.
 Brazil Clay Co., Brazil, Ind.
 Fultonham-Texture Brick Co., East Fultonham, Ohio.



This "Crowd" Was Rounded Up by J. E. Morrissey, manager, brick and terra cotta department, Cleveland Builders Supply Co., Cleveland, Ohio. 2. Albert N. Dunlap, Toledo Builders Supply Co., Toledo, Ohio, and Wm. M. Argall, local manager, Consolidated Fuel & Lumber Co., Ishpeming, Mich. 3. E. W. Clark, Buffalo (N. Y.) Builders Supply Co.; J. W. Morrison, president, Puritan Brick & Tile Co., Detroit, Mich.; W. T. Kern, Columbus (Ohio) Building Supply Co., and Chas. F. Harrison, Gaddis-Harrison Brick Co., Columbus, Ohio. 4. E. T. Conley, Sales Manager, Bradford (Pa.) Pressed Brick Co.; A. S. Reid, A. S. Reid Co. Inc., Newark, N. J.; Herman L. Matz, S. S. Kimbell Brick Co., Chicago, Ill.; John W. Van Wert, A. B. Meyer Co., Indianapolis, Ind., and Emil M. Kraatz, president, Wisconsin Face & Fire Brick Co., Milwaukee, Wis.

Claycraft Brick Co., Columbus, Ohio.
 Claycraft Mining & Brick Co., Columbus, Ohio.
 Belden Brick Co., Canton, Ohio.
 Acme Brick Co., Marietta, Ohio.
 Fallston Fire Clay Co., Pittsburgh, Pa.
 Gloninger & Co., Pittsburgh, Pa.
 Pittsburgh-Callery Brick Co., Pittsburgh, Pa.
 Ridgway Brick Co., Ridgway, Pa.
 Upper Kittanning Brick Co., Jersey City, N. J.
 Watsonstown Brick Co., Watsonstown, Pa.
 Alliance Brick Co., Alliance, Ohio.
 Bloomsburg Brick Co., Bloomsburg, Pa.
 Beaver Clay Mfg. Co., New Galilee, Pa.
 Rochester Clay Products Co., Rochester, Pa.
 Jewettville Clay Products Co., Buffalo, N. Y.
 Hay-Walker Brick Co., Pittsburgh, Pa.
 Kittanning Brick & Fire Clay Co., Pittsburgh, Pa.
 Alumina Shale Brick Co., Bradford, Pa.
 Decatur Brick Mfg. Co., Decatur, Ills.
 Hocking Valley Products Co., Columbus, Ohio.
 Toronto Fire Clay Co., Toronto, Ohio.
 Yingling-Martin Brick Co., Pittsburgh, Pa.
 Boone Brick, Tile & Paving Co., Boone, Iowa.
 Sioux City Brick & Tile Co., Sioux City, Iowa.
 Colonial Pressed Brick Co., Mogadore, Ohio.
 Acme Brick Co., Fort Worth, Texas.
 Kittanning Clay Mfg. Co., Kittanning, Pa.
 Burke Brick & Tile Co., Fort Smith, Ark.
 Huntingburg Pressed Brick Co., Huntingburg, Ind.
 McArthur Brick Co., McArthur, Ohio.
 Marietta Shale Brick Co., Marietta, Ohio.
 Stark Brick Co., Canton, Ohio.
 Dominion Fire Brick & Clay Products, Ltd., Moose Jaw, Canada
 Acme Brick Co., Cayuga, Ind.
 Hebron Fire & Pressed Brick Co., Hebron, N. D.
 Columbus Contractors Supply Co., Columbus, Ohio.
 Darlington Clay Products Co., Darlington, Pa.
 Kushequa Brick Co., Kushequa, Pa.
 Moulding Brick Co., Thomas, Chicago, Ills.
 Poston Paving Brick Co., Crawfordsville, Ind.
 Hocking Valley Fire Clay Co., Nelsonville, Ohio.
 Streator Brick Co., Streator, Ills.
 Coffeyville Vitrified Brick & Tile Co., Coffeyville, Kans.

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Southern Hollow Tile Men Confer

Members of the Southern Hollow Tile Manufacturers' Association held a conference at the Tutwiler Hotel, January 29, at which trade conditions were discussed. Representatives of all the hollow tile manufacturing companies in the South, that is, south of the Ohio River, and east of the Mississippi, were present.

Prices, labor conditions, raw material supplies, markets and similar subjects were discussed at length.

James T. Howington, of Louisville, Ky., president of the association, presided at the conference. Others present were: M. J. Bannon, Louisville; H. M. Strauss, Birmingham; C. T. Thomason, Bessemer; J. M. Jenkins, Montgomery; W. E. Eddins, Slidell, La.; A. G. Kahn, Selma; C. W. Dixon, Jacksonville, Fla.; and A. J. Bohn, Atlanta, Ga.

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James A. Hogan, 1852-1919

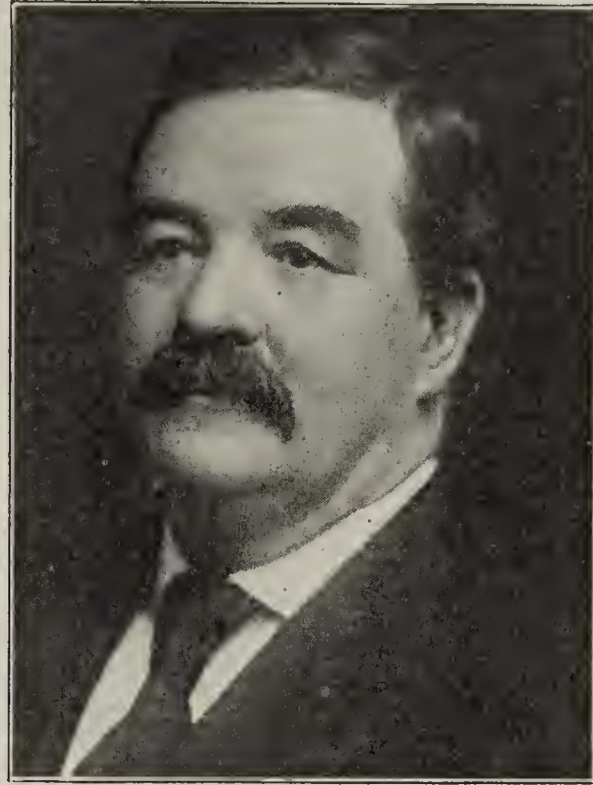
In the passing of James A. Hogan, secretary-treasurer of the S. S. Kimbell Brick Co., Chicago, the face brick business has lost a well known and highly esteemed member.

As the conventions of the American Face Brick Association and the Face Brick Dealers' Association of America were convening on Monday, February 10, Mr. Hogan's death, which took place on Saturday, February 8, was announced. Out of respect, the meeting of the Face Brick Dealers' Association did not convene until after the funeral on Tuesday morning.

Mr. Hogan began his business career as a bookkeeper

for the Illinois Stone Co., on August 2, 1871. He became secretary of the company in 1888 and its president in 1906. He remained in this office until January, 1912, when he resigned to become secretary-treasurer of the S. S. Kimbell Brick Co., well known Chicago face brick dealers.

The Builders' Club, Chicago, of which Mr. Hogan was



JAMES A. HOGAN

president for several years, met following his death and adopted suitable resolutions. Mr. Hogan was repeatedly elected president of the Builders and Traders Exchange. He was also at one time president of the Beverly Country Club.

At the closing session of the seventh annual meeting of the Face Brick Dealers' Association of America, a committee presented the following resolution, which was adopted:

"Whereas, God in His wisdom has seen fit to take from our midst, James A. Hogan, a respected and beloved member of this organization,

"Be it resolved, that his associates in the Face Brick Dealers' Association of America, express to his family and friends their deep sympathy and sorrow in the loss of this beloved member.

"Be it further resolved, that a copy of this resolution be sent to the family of our deceased brother and that a copy be spread on the minutes of this meeting."

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The sixteenth annual convention of the Tile & Mantel Contractors' Association was held at the Hotel Baltimore, Kansas City, Mo., beginning February 11. The attendance at this convention was larger than in any former year. The annual banquet was held on February 12. J. Leo Ryan welcomed the delegates on behalf of the city.

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The Pawhuska (Okla.) Brick & Tile Co., which suspended operations for the period of the war, will resume full capacity operations immediately, according to an announcement made by the manager, I. A. Hunter.



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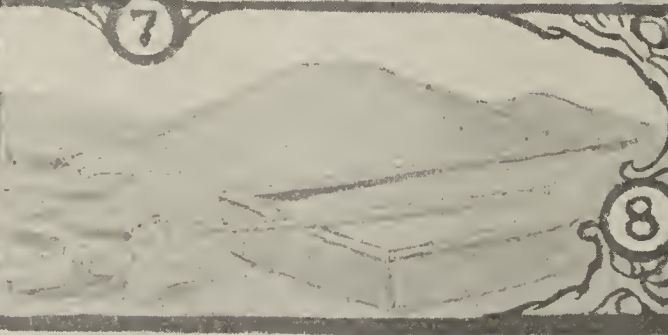
4



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1. C. F. Mattes, sales manager, Decatur (Ill.) Brick Mfg. Co., and C. W. Irwin, manager, Hydraulic-Press Brick Co., Dav-
enport, Ia. 2. A. E. Davis, Western Brick Co., Indianapolis, Ind.; G. C. Landgrebe, secretary and manager, Huntingburg
(Ind.) Pressed Brick Co., and John Andres, Standard Brick Mfg. Co., Evansville, Ind. 3. Charles F. Harrison, Gaddis-Har-
rison Brick Co., Columbus, Ohio; J. E. Morrissey, manager, brick and terra cotta department, Cleveland (Ohio) Builders Supply Co.
4. Ben H. Richards, Jr., Richards Brick Co., Edwardsville, Ill.; John T. Hummert, manager, Gem City Press Brick Co., Quincy,
Ill.; E. J. Ryan, president, American Press Brick Co., St. Louis, Mo., and W. P. Grath, St. Louis, Mo. 5. F. H. Tondreau, sales
manager, Brazil Clay Co., Brazil, Ind.; Ed. M. Baltes, Ed. M. Baltes Co., Fort Wayne, Ind.; A. G. Ostuberg, Calumet Supply
Co., Gary, Ind., and G. C. Landgrebe, secretary and manager, Huntingburg (Ind.) Pressed Brick Co. 6. H. E. Stringer, man-
ager, Hydraulic-Press Brick Co., Washington, D. C.; Otto C. Oehler, Continental Brick Co., and Enterprise Brick Works, St.
Louis, Mo. 7. Charles E. McCammon, L. H. McCammon Bros., Cincinnati, Ohio; D. C. Shorey, President, D. C. Shorey Brick
Co., Cincinnati, Ohio; John J. McCoy, vice-president, Wisconsin Face & Fire Brick Co., Milwaukee, Wis., and Rogers M. Combs,
vice-president, Thomas Moulding Brick Co., Chicago. 8. J. B. Nicholson and C. P. McFadden, Toronto Fire Clay Co., Toronto,
Ohio.

FULL-TIME SECRETARY FAVORED *by* DEALERS

*Participation in Face Brick Promotion Campaign
Also Strongly Urged at Seventh Annual Meeting*

THE SPIRIT to move forward, progress, do something and get results characterized the seventh annual meeting of the Face Brick Dealers' Association of America, held at the Edgewater Beach Hotel, Chicago, February 10, 11 and 12.

Co-operation with the manufacturers of face building brick in connection with the proposed publicity campaign was a subject for much discussion and some resolution. The concensus of opinion was that a paid secretary should be hired at the proper time and in the near future, which is a necessity to the further growth of the organization.

A big spirit of progress was certainly in the atmosphere at all of the dealers' meetings and if the determination expressed is carried out during 1919, it will certainly be a banner year for the association.

A feature of the opening session on Tuesday morning, February 11, was the informal talk made by Jno. M. Stoner, of the Cincinnati Clay Products & Supply Co., Cincinnati, Ohio, who has been president of the organization for the past year. Mr. Stoner said:

**"WHICH WILL IT BE—AN ASSOCIATION GOOD FOR THE
POCKETBOOK OR A SOCIAL ORGANIZATION?"**

"It seems to me that we are organized and we have accomplished some things, yet when you dig down into the bottom of this organization, you fail to see anything that we can really accomplish in the way we are going. We are all dealers and I think we should be very frank.

"We charge dues of \$25 a year. To my mind that is entirely too much money to do nothing with and it does not begin to be half enough to do something with. Your by-laws call for the executive committee to meet four times a year and when they do meet they are as helpless as anybody could be because there is nothing they can do.

"There is no one on the committee who is devoting his entire time to it, and after the committee meeting, it is just as one of these annual meetings, we all go home and forget it until the next meeting.

FULL TIME SECRETARY NEEDED

"In order to get down to real things and something that is good for the increase of the sale of brick—the thing that we are all interested in—I am a firm believer that we cannot accomplish that until we have a *paid secretary*, a man to devote his entire time to it.

"This organization should be put on a basis of each concern paying so much per thousand for all the brick that he sells and that would give us sufficient funds to employ a man.

"Take, for instance, the manufacturers. They have a *paid secretary* and have had for four or five or six years

and I don't believe they have accomplished anything until the last year. They are now doing real constructive work and I believe when they leave this meeting of today and tomorrow that you will read and see and know that the manufacturers have accomplished things—things that are good not only for themselves but good for us as well. They are going to put over a national advertising campaign, I can't say that positively, but I believe they are putting over a national advertising campaign. Now that is going to increase the sale of brick for us, of course, whether we get in on it or not, but if we don't get in on it we are not sufficiently interested to make the money they spend one hundred per cent. good.

"But if we were actually putting up an equal amount, or even half as much, then we would feel that we had to get out and help make that money good.

"I don't see any reason why a national organization of this size cannot afford a paid secretary. If you don't want to do anything like that then I don't think you have any right to expect anything out of the officers that you elect. I don't believe that you should expect your officers to meet four times a year and take care of all the issues.

"You pay nominal dues and after you leave here you say, 'Well, boys, we have had a good time and I'll see you next year,' and when you come next year that is all you should expect.

"On the other hand, if you want to spend some money, and it isn't out of your pockets that you spend it because that should go into the cost of your business, we can create business and I think that is the issue that stands before us today, the creating of business thruout the entire United States.

OTHER ORGANIZATIONS EVEN SEND MEN ABROAD

"It is absolutely true that the lumber men of the United States have sent representatives to France already to look after their interests there. I heard a machine tool man say in Cincinnati the other day that they had representatives going to France and if other organizations can afford to have men go out and look for the good of the industry as a whole, why isn't it equally as reasonable that we could look after our own interests at least in the United States?

"I believe that that is important and that is the reason why I am saying this so early in our meeting, so you can think it over, appoint your committees if you want to, do anything you please about it, but before you have election of officers you ought to make up your mind about this: The officers that you have elected in the past year have met four times, as your by-laws call for. It was our aim to meet in localities where there seemed to be the lack of harmony, where the dealers in that

particular locality were not getting along and we tried to show them the advantage of organization.

"I believe there are some in the room that will testify that we did some little good. But we have had requests come from other sections where it was absolutely impossible to keep the appointments, as much as we would like to have done so and that was the case all the way along. It takes some one who depends on this association to get his living, to make it a success.

"I don't think there is any question but what somebody might have in mind a man that could put that across.

TRUSTEES GAVE EXCELLENT SUPPORT

"I can say for the board of trustees, I have had excellent support. There never has been a request made but what they fulfilled it. At the meetings they were one hundred per cent. there unless on account of sickness and they did everything within their power to try to accomplish something this year but we have come back here at the end of the year and, to be frank with you, I don't think we have done anything worth while.

"Neither do I think that the next set of officers can do any more unless you give them authority and get an organization behind them and organize into smaller units in your localities and put a firm foundation there so that when we go to the manufacturers and talk to them they will listen to us and when they come to us we can say yes or no.

There are dealers thruout the United States that have written letters in that they were getting certain treatment from the factories. We are helpless. We just make ourselves foolish to go before them as a body and ask them to do this or that. Your local clubs can do more than we can because they know we are no stronger than we are.

MANUFACTURER WILL BE BEST FRIEND

"Yet, if we were to organize and become strong you would find that the manufacturers will be our *strongest friend*. They would be more than pleased to see us organize to such an extent that they could take us in as a companion and consult with us because it is good for the industry and sale of brick and the minute we can increase the sale of brick we have accomplished the thing that is good for each of us and this has either got to be an organization that is good for the pocketbook or a social organization and that is the thought that I want to leave with you."

SECRETARY'S REPORT

In the absence of H. Serkowich, who is at present a lieutenant in the navy, and of Wm. H. Gifford, acting secretary, who was confined to his home during the convention on account of illness, J. W. Morrison, a member of the board of trustees, acted as secretary. Mr. Morrison read the usual report which was approved and placed on file.

The remainder of the morning session on Tuesday, February 11, was devoted to an informal discussion of various subjects, principally those brought out in President Stoner's message.

SUGGESTS WORKING WITH COMMON BRICK MEN

Herman L. Matz, of the S. S. Kimbell Brick Co., said: "I only want to make one suggestion at the beginning so we may all have this thought in our minds, that we as dealers in face brick can cooperate with the manufacturers of face brick and we can also cooperate in a very large and valuable way with the manufacturers of

common brick and we will have a joint dinner tomorrow night (February 12) where some of those matters may be discussed. Personally, I feel that we should have a little closer relationship with the common brick people. Here in Chicago the members of the Chicago Face Brick Association and our own association are in very close touch with the common brick people.

"We have a very strong feeling that there are a great many matters we can cooperate on and accomplish more than by acting separately and we ought to. The dealers in Chicago and the manufacturers of common brick located in Chicago feel that there are a great many things we can do together to help each other and so it was just to give that thought to you so in thinking about what we can do, or our organization can do we should bear in mind that the common brick people for the first time in history within the last year organized a national association of common brick manufacturers. I think they realize the fact that they were not organized had more to do with the lack of recognition on the part of the government during the war than anything else and that we were put on the defensive because the common brick people were not organized.

"The people who have the capacity to manufacture seven thousand million common brick didn't have a representative on the War Industries Board, but the people who manufacture mica, of which three or four hundred thousand dollars worth was produced in a year, did have a representative on the board.

"Not only the people who manufacture the seven thousand million common brick but the people who manufacture face brick had no representation on that board.



1. R. D. T. Hollowell, secretary, American Face Brick Association; W. H. Brecht, Boone Brick, Tile & Paving Co., Boone, Iowa; Frank H. Merrill, Belt Line Brick Co., Minneapolis, Minn.; 2. Malcolm A. Thomson, Thomas-Williams Co., Duluth, Minn.; 3. C. A. Gunn, secretary, Northwest Face Brick Association, St. Paul, Minn., and John H. Donahue, Jr., Corning-Donahue Brick Co., St. Paul, Minn.

We were in Washington defending ourselves and explaining how we could help win the war by not running and saving the coal instead of talking with men selecting building materials. The result was in a great many cases that they saved fuel by not burning brick but they used several times as much fuel to transport lumber thousands of miles which, in the end, didn't give them as good results and it was thru lack of organization that the fact that the common brick people have, during this past year, organized a national organization which is getting stronger all the time. It will interest us to see how many more members they get. We will be very much interested in seeing how their association grows.

"The field to me seems to be two-fold. The common brick people are interested in safe construction. We manufacturers and dealers in face brick are interested in more decorative construction. The first step is to get the public to want to build a fireproof building and the next is to get a good looking building. In some parts of the country the common brick are good looking brick but in other parts of the country they are only fitted for backing purposes.

"The first step, however, is to get people to build a fireproof house, and that is what the common brick manufacturers are for and then we are to come along and try to get them to build a good looking house."

COMMITTEE APPOINTED ON EXPANSION

An interesting discussion developed with regard to the suggestion of a full time secretary, which resulted in the appointment of a committee of five to receive suggestions from the members regarding revisions of the by-laws and methods of procedure, so that the association might carry out the idea of growing bigger, reporting back to the convention for discussion of the subject. The committee appointed was as follows: D. W. Clark, Buffalo Builders Supply Co., chairman; J. A. Dolben, Dolben & Co., Boston, Mass.; G. P. Dean, Pfotenhauer-Nesbit Co., New York, N. Y.; J. N. Blanchard, Nebraska Material Co., Lincoln, Neb., and F. Lawson Moores, Moores-Coney Co., Cincinnati, Ohio.

URGES PAID SECRETARY

Donnelly Weaver, of the Brick Sales Co., Cincinnati, Ohio, said:

"It looks to me if the dealers' association is going to accomplish anything in this coming year that is worth while, they have to start and by saying that I do not mean to depreciate any effort that has been made by any of the cabinets heretofore because they have accomplished some things.

"But we have gone thru a period of doing practically nothing and I believe all of you agree with me that the future means something to all of us. Now, if we are going to take advantage of the opportunities as they come along, we have to be organized to do it. The manufacturers have accomplished in a very great measure the results that we just spoke of a few minutes ago by having a man in the field every day of the year looking after their interests, and if we are going to accomplish the things we hope to accomplish, it looks to me that is the issue that ought to receive most serious consideration at this meeting.

"Just as soon as this meeting is adjourned, we all go back home and get busy ourselves. If we had a man who was devoting all of his time to the interest of the dealers, as the secretary of the manufacturers is devot-

ing all of his time to the interest of the manufacturers, we certainly would accomplish more. We would have more to come to a meeting for.

"Our meetings in the past have been get-together meetings, having a good time, renewing friendships and making new ones, but really accomplishing very little.

"It is going to cost us something to have a paid secretary, but anything we get in this world we have to pay for. And we ought to be willing to pay a little bit now and get a result finally that will pay good dividends." (Applause.)

"You know I am not a member of this organization and refuse to renew our membership of the Southland Brothers, of Omaha," said A. A. Klein. "We took that stand because you accomplished nothing and we didn't see any use of contributing \$25 a year for nothing.

"As I suggested to you, so far as we can see we gathered usually without a program, with nothing to do and nothing to say. It seems to me that the dealers accomplish more thru their local organizations. I happen to be president or chairman of our Nebraska Clay Club and we have accomplished for the benefit of the industry more in one meeting than I have had in benefit from the years of membership in this organization.

"The advertising appropriation, by the manufacturers that you mentioned, and the remark you made about a possible contribution on the part of the dealers, leads me to remark that it doesn't appeal to me because we, as dealers in Nebraska and Omaha, advertise freely in newspaper space and have almost all, in fact I don't know of any one of the dealers in Nebraska that fails to take a good deal of newspaper space, taken care of this local advertising.

"The year the old B. B. A. got out the book, 'The Cost of a House,' we made a spread advertisement of that book, bought 1,500 copies and distributed them without cost and in that way created a demand on the part of the builder for a permanent home. We have done everything in the way of constructive advertising. If the manufacturers will develop advertising on that scheme, issue books, we will buy 500 or 1,500 copies and distribute them free, use our local newspaper space to make known this book and in that way contribute our share toward an advertising campaign.

"Now then, if you go into this matter with a paid secretary and spread your dues I will say to you that we will come in as a member and pay any reasonable amount that may be decided upon as necessary, but the way you are going we wouldn't contribute \$25. Let your paid secretary organize the various local brick people and have this as a clearing association or a clearing house for the local conditions of the local associations."



Jno. M. Stoner, Cincinnati Clay Products & Supply Co., Re-elected President of the Face Brick Dealers' Association.

GETS HIS \$25 WORTH

F. Lawson Moores; Moores-Coney Co., Cincinnati, Ohio: "Probably some of the members present today remember the first meeting we held at French Lick, and particularly I remember a gentleman from Canada who was so pleased with the information he learned from



C. B. Elwood, Secretary, Watts-Morehouse Co., Jackson, Mich., Who Has an Unusual Face Brick Display.

Cincinnati and what they were going to do that at the next meeting he brought every one of his competitors into this organization. I think, even tho we haven't done so much as an organization, that I have received the value of my \$25. I come here and talk to a man and tell him what we are doing in Cincinnati and I am sure he is benefited by it."

David McGill, Montreal, Que.: "I was very glad to hear Mr. Klein speak as he did and I also considered that that advertising campaign was most admirable. I also felt that the entire brick industry owed a deep debt of gratitude to Mr. Fiske, who was the father of that. He was not the only one that profited by those publications. I think that the publications that they produced were very, very useful or should have been useful if the full advantage had been taken of this and it seems to me that this new organization which we anticipate, or the present organization with its new lease of life couldn't do better than

adopt a similar line of campaigns, perhaps a more extensive and better plan of organization. The books were really beautiful and must have impressed any person that received them with the possibilities of brick work, which a great many people didn't realize and I was very glad to hear Mr. Klein speak as he did and I am sure a great many members feel that way too."

COMMENTS ON MR. KLEIN'S REMARKS

Jno. M. Stoner: "The only thing I want to say in regard to what Mr. Klein had to say is this: I thought he would talk along that line and he expressed a great many of my sentiments. However, I believe that we should be interested in joining the manufacturers in an advertising campaign even tho they do do it in their particular district, newspaper advertising and all. I have every reason to believe it would be more efficient if they had one professional man or one skilled man to do all of their advertising and start along one general channel and move in one general direction because, as a rule, a business man isn't an advertising man, he has one thought today and another tomorrow. And that is what the manufacturer should do. The cement people advertise in everything from the "Saturday Evening Post" down. They are putting cement forward. And the paving brick people have done well in advertising and personally I think we could get better results to work all in one direction."

J. A. Dolben, Dolben & Co., Boston: "It is my understanding that the manufacturers' plan is to appropriate fifty cents per thousand for a general advertising cam-

paign and we intend to follow that up and request the dealers to appropriate twenty-five cents for local advertising. If this is to be accomplished by this arrangement, what can the paid secretary do for us? Isn't this a local proposition?"

Jno. M. Stoner: "That is a question. What can a paid secretary do? I don't know that we want one—won't say that we want one. But after acting as your president for the past year and after the many requests that have been made of me since I have been here, you men expect more than just a meeting place and you cannot reasonably expect it."

"The thing I have in mind in favoring a paid secretary," said Donnelly Weaver, "is the many business centers that are not organized and the greatest good he can do to our interest in the brick industry is to get into those centers and organize them. Take Cincinnati, for example: before we became organized down here we were doing business at a loss if there was any business to be done."

"I know it to be a positive fact," Mr. Stoner stated, "that ever since we have gathered here in the last few days some localities have made their districts one hundred per cent. perfect by their local clubs. I see a sign up there, one hundred per cent. That wasn't there yesterday. Now that district is getting some good out of this meeting even tho they don't get it out of this room."

ONE IDEA WORTH ALL THE DUES

J. H. Donohue, Jr.: "I will say, as to the benefits derived from being a member of this organization and coming to the meetings both here and French Lick that finding out what you have done in Cincinnati and what has been done here in Chicago several years ago made us see the light and patterning in a general way after that, we have organized the Northwest Face Brick Association. We were afraid it might not be known so we had a couple of signs printed. We owe the idea to having been at these meetings and I think that alone was worth the \$25 a year we contributed."

TUESDAY AFTERNOON SESSION

After acting favorably upon the applications of fourteen or more face brick dealers for membership in the association, J. N. Blanchard, of the Nebraska Material Co., Lincoln, Nebr., gave a very interesting talk on "Cooperation—the Keynote of Successful Brick Club Organizations." It may be that space will be available in a near future issue of *Brick and Clay Record* to reproduce this interesting talk.

Mr. Blanchard was followed by B. W. Ballou, of the Kansas Buff Brick & Manufacturing Co., Buffville, Kan., who spoke at length on "How the Dealer Can Best Serve the Manufacturer." It is hoped that this very valuable and interesting address may be reproduced in a future issue.

Both talks were followed by an animated discussion which was productive of much good. B. Mifflin Hood, of Atlanta, Ga., then spoke on "The Reconstruction Period, and What It Will Mean to the Brick Dealer."

WEDNESDAY MORNING SESSION

After passing a suitable resolution occasioned by the death of James A. Hogan, secretary-treasurer of the S. S. Kimbell Brick Co., Chicago, the meeting also adopted the following resolutions:

"Whereas, the American Face Brick Association has laid plans for the purpose of launching a national advertising campaign;

"Be it resolved, that the Face Brick Dealers' Association

of America hereby expresses its desire to cooperate in every way possible with the American Face Brick Association in the furtherance of said campaign;

"Be it further resolved, that when the American Face Brick Association has completed its present plans, the executive committee of this association be instructed to devise ways and means for the employment of a secretary whose duties it shall be to promote the more extensive use of face brick, also, to assist in the establishment of local organizations.

"Be it further resolved, that a copy of this resolution be sent to the American Face Brick Association and that a copy be spread on the minutes of this meeting."

The report of the nominating committee being the next order of business, was read by Chairman Herman L. Matz. The report of the committee was as follows:

VICE-PRESIDENTS ELECTED

Vice-presidents, according to states, each state having a membership in the association being entitled to a vice-president:

Alabama, Thomas H. Simms, of Birmingham.
Connecticut, Clinton E. Van West, Bridgeport.
Georgia, B. Mifflin Hood, Atlanta.
Illinois, Roy B. Howard, of Chicago.
Indiana, J. M. Van Wert, Indianapolis.
Iowa, Tom Green, Sioux City.
Kentucky, Isaac H. Tyler, Louisville.
Louisiana, Walter F. Jahncke, New Orleans.
Massachusetts, J. A. Dolben, of Boston.
Michigan, Frank Schafer, of Detroit.
Minnesota, J. H. Donahue, Jr., of St. Paul.
Nebraska, F. N. Blanchard, Lincoln.
New Jersey, A. S. Reid, Newark.
New York, D. W. Clark, of Buffalo.
Ohio, J. E. Morrissey, of Cleveland.
Pennsylvania, T. B. Freman, of Pittsburgh.



Wm. Hummel and Geo. Ellis, of the David Hummel Building Co., and E. F. Grand, president of the E. F. Grand Brick Co., all of Cincinnati, Ohio.

Tennessee, W. N. Fry, of Memphis.
Virginia, J. G. Greenen, of Norfolk.
Wisconsin, E. M. Kraatz, of Milwaukee.
Canada, David McGill, of Montreal.
For the board of trustees: R. L. Findlay, of New York;

W. H. Gifford, of Chicago; F. N. Blanchard, of Lincoln; the other two the ex-officio members, the president and the secretary.

For president: Jno. M. Stoner.

After some discussion the name of E. W. Clark, of Buffalo, was added to the report as being nominated for secretary.

The convention voted to instruct the acting secretary to cast a unanimous ballot for the entire ticket, which was done. Herman L. Matz then performed his duty of installing the new officers.

ROSTER OF FACE BRICK DEALERS ASSOCIATION OF AMERICA

A. N. Dunlap, Toledo (Ohio) Builders Supply Co.
C. A. Gunn, Secretary, Northwest Face Brick Association, Pryor University, St. Paul, Minn.
W. Braintens, Hay-Walker Brick Co., Pittsburgh, Pa.
J. W. Morrison, Puritan Brick & Tile Co., Detroit, Mich.
D. C. Shorey, D. C. Shorey Brick Co., Cincinnati, Ohio.
M. P. Louverse, S. A. Morman & Co., Grand Rapids, Mich.
R. L. Bryan, Reliance Brick Co., Oklahoma City, Okla.
Andrew A. Ayers, Hay-Walker Brick Co., New York City.
J. N. Blanchard, Nebraska Material Co., Lincoln, Nebr.
Wm. M. Argall, Consolidated Fuel & Lbr. Co., Ishpeming, Mich.
James E. Morrissey, Cleveland (Ohio) Builders Supply Co.
W. O. Fredenburg, Fredenburg, Lounsbery Co., New York.
E. F. Grand, Pursell-Grand Co., Cincinnati, Ohio.
B. Mifflin Hood, B. Mifflin Hood Brick Co., Atlanta, Ga.
Thomas H. Simms, Brick Selling Co., Birmingham, Ala.
Clarence S. Nixon, Paine & Nixon Co., Duluth, Minn.
Charles V. Pierson, Duluth (Minn.) Builders Supply Co.
John H. Donohue, Jr., Corning-Donohue Brick Co., St. Paul, Minn.
David McGill, Montreal, Que.
Burt F. Wheeler, Meacham & Wright Brick Co., Chicago.
R. N. LaBar, LaBar-Williams Co., Scranton, Pa.
T. B. Freman, Hay-Walker Brick Co., Pittsburgh, Pa.
John T. Harrington, Twin City Brick Co., St. Paul, Minn.
C. C. McComb, Twin City Brick Co., Des Moines, Iowa.
Frank Schafer, McDonald Coal & Brick Co., Detroit, Mich.
F. J. McDonald, McDonald Coal & Brick Co., Detroit, Mich.
Clifford J. McDonald, McDonald Coal & Brick Co., Detroit, Mich.
H. R. Beigle, Pittsburgh (Pa.) Clay Products Co.
Malcolm A. Thomson, Thomson Williams Co., Duluth, Minn.
Floyd B. Johnson, Johnson-Howard Co., Kalamazoo, Mich.
Albert A. Klein, Sunderland Bros. Co., Omaha, Nebr.
D. E. Sweeney, Jacksonville, Ill.
R. L. Queisser, R. L. Queisser Co., Cleveland, Ohio.
Clinton E. Van West, Wheeler & Howes Co., Bridgeport, Conn.
R. J. Powell, Wm. Moellerings Son, Ft. Wayne, Ind.
Samuel E. Matter, Standard Salt & Cement Co., Duluth, Minn.
Wm. C. Koch, Twin City Brick Co., St. Paul, Minn.
John C. Johnson, Standard Sales & Cement Co., Duluth, Minn.
Charles Spikings, Reliance Brick Co., Des Moines, Iowa.
R. R. Colburn, Colburn Brick & Tile Co., Minneapolis, Minn.
Charles A. Bonner, Bonner & Marshall Brick Co., Chicago.
J. A. Dolben, Dolben & Co., Boston, Mass.
H. A. Smyth, Wisconsin Brick Co., Madison, Wis.
Walter Pursell, Pursell Co., Cincinnati, Ohio.
C. W. McDowell, Fischer Lime & Cement Co., Memphis, Tenn.
W. N. Fry, Fischer Lime & Cement Co., Memphis, Tenn.
Chas. F. Harrison, Gaddis-Harrison Brick Co., Columbus, O.
Douglas Wilson Clark, Buffalo Builders Supply Co., Buffalo, N. Y.
Herman L. Matz, S. S. Kimbell Brick Co., Chicago.
R. B. Howard, Meacham & Wright Brick Co., Chicago.
August Stauman, Builders Material Co., Cincinnati, Ohio.
R. B. Tyler, R. B. Tyler Co., Louisville, Ky.
Isaac H. Tyler, R. B. Tyler Co., Louisville, Ky.
C. E. McCammon, L. H. McCammon Bros., Cincinnati, Ohio.
R. S. Hathson, Gaddis-Harrison Brick Co., Dayton, Ohio.
R. L. Findlay, Hay-Walker Brick Co., New York City.
J. N. Gerard, Nebraska Material Co., Lincoln, Nebr.
B. J. Cummins, Cincinnati Brick & Tile Co., Syracuse, N. Y.
Theodor H. Swan, Rochester, N. Y.
Mammer Brick Co., Benton Harbor, Mich.
A. S. Reid, A. S. Reid & Co., Inc., Newark, N. J.
W. Jas. Degenhart, John H. Black Co., Buffalo, N. Y.
E. C. Howard, Columbus Fire Brick Co., Columbus, Ohio.
Leo A. Krueger, Cleveland, Ohio.
Jno. M. Stoner, Cincinnati (Ohio) Clay Products & Supply Co.
A. G. Ostuberg, Calumet Supply Co., Gary, Ind.
A. G. Gregory, Calumet Supply Co., Gary, Ind.
J. F. Leonard, Cuyahoga Builders Supply Co., Cleveland, Ohio.
Jas. J. Lyons, Brick Sales Co., Chicago.
John J. McCoy, Wisconsin Face & Fire Brick Co., Milwaukee, Wis.
Emil M. Kraatz, Wisconsin Face & Fire Brick Co., Milwaukee, Wis.
L. C. Briggs, The Briggs Co., Lansing, Mich.
S. B. Dobbs, S. B. Dobbs, Philadelphia, Pa.
Louis E. Meir, La Crosse, Wis.
A. J. Rogers, Fiske & Co., Inc., Boston, Mass.
Harold H. Rosenberg, *Brick and Clay Record*, Chicago.
Dudley F. Holtman, American Contractor, Chicago.
Thomas A. Lawler, Briggs Co., Lansing, Mich.
Ed. M. Baltes, Ed. M. Baltes & Co., Fort Wayne, Ind.

Theo. C. Schwier, Ed. M. Baltes & Co., Fort Wayne, Ind.
 H. B. DeWitt, Mitchell Builders' Supply Co., Niagara Falls, N. Y.
 Donnelly Weaver, Brick Sales Co., Cincinnati, Ohio.
 Ralph Spencer, Dresden Brick Co., Detroit, Mich.
 R. O. Cosler, Indianapolis, Ind.
 Clifford A. Taylor, Thomas Bros. & Co., Ltd., Detroit, Mich.
 Frank H. Merrill, Belt Line Brick Co., Minneapolis, Minn.
 R. M. Lucas, Columbus (Ohio) Clay Club.
 Jno. M. Van Wert, A. B. Meyer & Co., Indianapolis, Ind.
 George Hyde, Hyde Sons, Montreal, Que.
 F. Lawson Moores, Moores-Coney Co., Cincinnati, Ohio.

A. G. Gregory, Calumet Supply Co., Gary, Ind.
 F. C. Lafountain, Arkansas Brick Co., Kansas City, Mo.
 H. D. Drake, H. D. Drake Co., Windsor, Ont.
 L. Harry Wiers, L. H. Wiers, Windsor, Ont.
 R. M. Combs, Thos. Moulding Brick Co., Chicago.
 O. J. Ellingen, H. D. Conkey & Co., Mendota, Ill.
 George H. Doers, Consolidated Co., Chicago.
 John F. Kern, Columbus (Ohio) Builders Supply Co.
 C. W. Kimbell, Kimbell-Hill Brick Co., Chicago.
 F. B. Holmes, F. B. Holmes & Co., Detroit, Mich.
 E. G. Zorn, editor, *Brick and Clay Record*, Chicago, Ill.
 F. C. Schmucker, *Brick and Clay Record*, Chicago, Ill.

EXPORT INQUIRY ACTIVE *for* BRICK *at* N. Y.

UPON THE EVE of a state-wide conference at Albany on the question of building material price changes new drains upon available supplies developed at the week end, according to The Dow Service Daily Building Reports of February 17.

The Jova Brick Co., one of the prominent brick manufacturing companies along the Hudson River, received the first commercial inquiry for American common brick for export to Belgium for reconstruction purposes. They were requested to figure prices delivered, dock, Belgium port, on one million brick and put their price in on Saturday. It was reported here that similar inquiries had been made of one or more brick manufacturers supplying the Boston and Philadelphia markets. At the same time it was made known to the trade that an actual order had been placed, filled and would be shipped this week, for 2,000 barrels of lime for building purposes for the west coast of East Africa.

The building material market has barely recovered from the full realization of the significance of these actual export factors in the domestic building material situation when it was announced officially by Brig.-Gen. R. C. Marshall, Chief of the Construction Division of the War Department, that instead of the Federal Government having on hand a surplus of building materials to dump back upon the building trades, the War Department said that "it is expected that cement and lime will have to be purchased for the completion of work now under way by this division." It advised, however, that small quantities might be procured in the vicinity of New York by communicating with the quartermaster at each of the following projects, that officer having charge of the sale of such surplus stock as is located on his project, purchaser accepting run of material and without selection of damaged material from good: Raritan Arsenal, Metuchen, N. J.; Camp Mills, Long Island, N. Y.; Fort Wood, Bedloes Island, N. Y.; 90 West Street, N. Y.; Bag Loading Plant, Tullytown, Pa.; Sulphuric Acid Plant, Mount Union, Pa., and Sulphuric Acid Plant, Emporium, Pa. The quantities available at these sources are not sufficient to disturb the actual market.

SHORTAGE OF BUILDING MATERIALS IN NEW YORK

In the light of the comparatively light supply of basic building materials and the full confirmation of actual foreign inquiry along the Atlantic seaboard for basic building materials for shipment across the ocean, the conference called from the 19th to the 21st by the New York State Builders' Supply Association (dealers), at Albany, takes on additional significance, especially in view of the statement made before the New York State Association of Builders meeting in the same city last week, by State Architect Lewis F. Pilcher, that the state of New York, with the biggest construction program in its entire his-

tory, was handicapped, not by the indifference of labor or lack of money, but by the ability of the building material manufacturer to turn out sufficient construction commodities to meet the demands of the state alone, a condition, he said, that was steadily characteristic of practically every great community thruout the country.

The week's report from the window glass industry supplying that part of the country lying east of the Mississippi, bears out entirely the state architect's view of scarcity of basic building materials when it is stated officially that altho glass labor had received an increase of 10 per cent. in wages, the actual production during the entire year would be only one-half that of normal with the present fire starting on February 8 going out on May 24 and the shut down continuing until August 15 and resuming until December 5. There is significance in the fact that the wage adjustment has been made for a full year, indicating that the glass industry is doing its part toward stabilizing the market for building materials. Present price discounts as officially published are not those ruling uniformly in the market, but reflect the tendency of distributors to unload on glass purchased at lower markets in anticipation of heavier demand later.

BIG DEMAND FOR COMMON BRICK

Sand quotations were being readjusted at the week end. Lower prices will probably prevail by February 18. Radiator and gate valves are in an unsteady market, the trade feeling that another drop in the price of copper is imminent. There are receding prices in plumbers wood work. Shipments of Canadian asbestos have increased 3 per cent. while the market values for the same period have increased 35 per cent. a year. There is no surplus over, market demands and higher prices are sure to result if greater production is not made possible. Covering prices have hardened perceptibly during the last week. Building stone is in a most advantageous position, there being a large stock on hand in this market today with prices probably proportionately lower than the regular market. The building stone interests of New York especially, have anticipated the scarcity of basic building materials and have for the last year accumulated large surpluses of exterior limestones, sandstones and granites and interior marbles, for this year's demand. Recent freight rate advances have been discounted by this foresightedness and the result is that prices for this material are closer to normal than almost any other commodity. Common brick prices are being rigidly held at \$15 wholesale despite heavy bear movements. New York state construction work alone probably will call for more Hudson River brick than ever before in its history, according to the specifications being prepared at the office of the state architect now. Practically all the new prison, hospital and similar work call for common brick facing.

GOOD REPRESENTATION

at COMMON BRICK'S 1st ANNUAL

Nearly Every Section of the Country Represented in the One Hundred Manufacturers Present at Chicago Convention, February 12 to 14—Consider Advertising Common Brick Nationally—To Make Effort for Bigger Membership—1918 Officers Re-Elected

WHAT WAS PERHAPS the most representative gathering of common brick manufacturers in the United States in many a day, took place at the La Salle Hotel, Chicago, February 12 to 14. It is true, according to numbers, the gathering might not be termed one of prodigious proportions but in looking over the roster of about one hundred names, one might readily see that the meeting was most representative. Not only was the convention a representative one but every one present, with few exceptions, was a common brick manufacturer vitally interested in the outcome of the deliberations. In other words, those who were present came for a serious purpose and with a grim determination to put on its feet the movement for a real national common brick manufacturers association.

At the very outset, President William Schlake appointed a committee of six. "So much has been said concerning the Common Brick Manufacturers' Association of America," said Mr. Schlake, "as to its being a local movement and a Chicago affair, in order to refute such a charge, I desire to appoint the following men on the committee on constitution and by-laws: Mr. Reynolds, New England; Mr. Geo. Clippert, Michigan; Mr. Stafford, Georgia; Mr. Griffiss, Maryland; Mr. Francis, Oklahoma; Mr. Mayer, Pennsylvania.

"So you see Chicago is going to exercise a great deal of influence when the committee on constitution and by-laws

starts to function. There is not a Chicago man on the committee, gentlemen."

Another committee on nomination for directors was appointed consisting of: Mr. Mercier, Michigan; Mr. Ed. Kelly, Pennsylvania; Mr. Cahoon, Utah; Mr. Ballou, Kansas.

Both of these committees were accepted by the convention.

The committee on constitution and by-laws had instructions not to report until the last session of the convention on Friday, February 14, so that all members and other common brick manufacturers would have full opportunity to get in touch with the committee, giving it their ideas on what the permanent constitution and by-laws of the organization should be, and also who, in their opinion, should constitute the new board of directors.

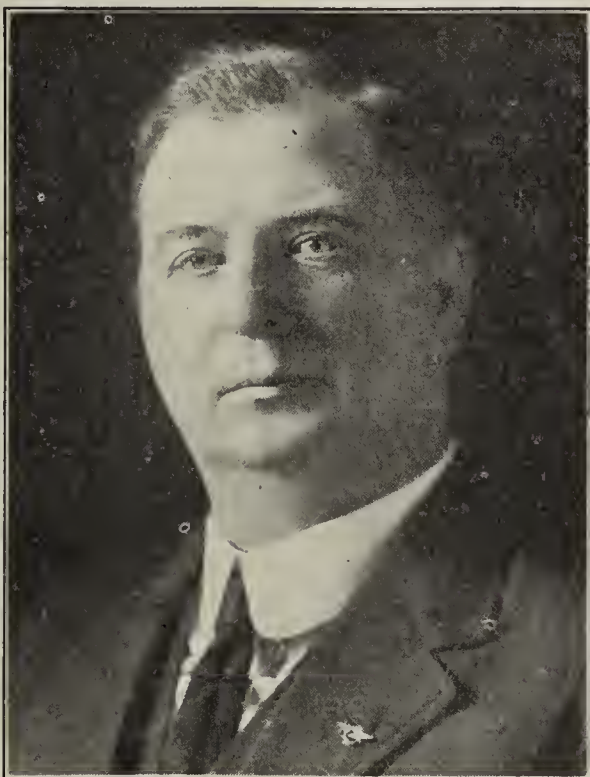
MR. SCHLAKE MAKES OPENING ADDRESS

"Less than a year ago, to be exact, on June 26, 1918, there was formed in this city the Common Brick Manufacturers' Association of America. At that time there assembled here a comparatively small number of men engaged in the manufacture of common brick, who attempted to survey the situation in the common brick business, with the view of finding, if it were possible, a remedy for the evils with which we were afflicted.

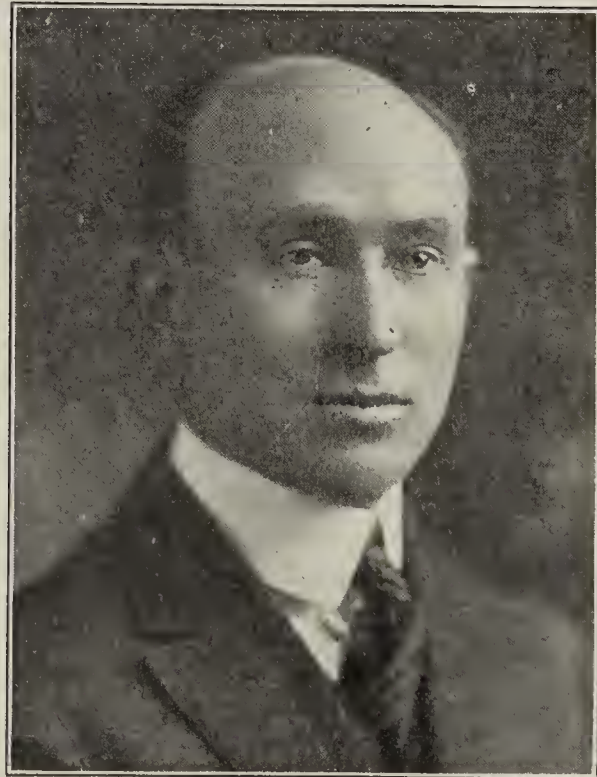
"Producing the best building material in the world, a



Wm. Schlake, of Chicago



W. H. Bryan, of Detroit



Ernest Barkwill, of Cleveland

THE PRESIDENT, VICE-PRESIDENT AND TREASURER FOR 1919.



C. P. Mertens, of Chicago



W. N. Cary, of Albany, N. Y.



B. W. Ballou, of Buffville, Kans.

TEMPORARY SECRETARY AND TWO OF THE DIRECTORS FOR 1919.

material so immeasurably superior to all others, that a comparison of it with substitutes of any kind is ridiculous, the manufacturers of common brick must admit that they occupy a very low rank in the industrial world, from a financial point of view. Millionaires abound in other lines of human endeavor, but we belong to the indigent class. Lumbermen, people engaged in the cement business, contractors, architects, are producing nabobs galore, while brick manufacturers are eking out a miserable existence. We are the feeble, non-resisting victims of architects, contractors, dealers, speculative builders, and whoever else cares to take a wallop at us. In fact, anyone who sees fit to attack a brick manufacturer, will find him very easy prey. And why?

"If the cement people, lumbermen and other manufacturers of an inferior article, as compared with brick, have been able, not only to subsist, but to grow opulent, why are we suffering? The answer is simple:

"It is lack of organization."

ORGANIZATION BRINGS BIG RESULTS

"This is an age of co-operation and co-ordination, and the people engaged in lines of business, which are competitive with brick, were quick to realize the truth, to seize upon it, and turn it to their advantage, while we, like a lot of dubs, have each gone his own way, an easy prey to everyone. They, our enemies, in a business sense, first brought their people into contact with one another, got them to rub elbows, become acquainted with one another, and in that manner had they learned, that altho competitors, they were nevertheless all human beings, one no better, no worse than the other; and once this great lesson was learned by them, they began to have a little bit of confidence in one another, and out of this confidence in each other, grew the conviction that if they banded themselves together, presented a solid front to the enemy (and by enemy, I mean you brick manufacturers), they would be sure to attack some of your strong positions,—perchance vanquish you completely. And have they not met with remarkable success? Are they not storming and attacking one strong position of ours after another, lumber as well as cement?

Thru organization, they have achieved their successes, and successes of a legitimate character. They have stopped price cutting, for one thing; they have stopped cut-throat com-

petition. Prices with them are based on costs. Cost accounting in their respective lines has been the subject of a great deal of study on the part of their best men, and has been made uniform among their members.

"The next step was to educate their members that a certain definite per cent. should be added to the cost of profit; and that the sum of these figures, cost and profit, spells price. They have, thru such means, (perfectly legitimate means), accomplished great good for their members. And what is true of our lumber and cement friends, is true of almost every line of human endeavor, except of the manufacturers of common brick.

"The men who assembled here on June 26, 1918, asked themselves: 'Should it not be possible to weld together into a strong national association, the manufacturers of common brick, and secure for them at least some, if not all, the advantages that have come to other organized businesses thru association work?' We have men in our ranks as gifted as others; men engaged in the manufacture of common brick, are as well off, if not better, in business acumen than men in other lines. Why should it not be possible, therefore, to achieve for themselves what men in other lines have accomplished? We believed in that possibility; believed the time was opportune, and thereupon formed the Common Brick Manufacturers' Association of America, and we are now assembled in annual convention, our first annual convention, the fore-runner, I hope of many more."

HAS 30 PER CENT. OF PRODUCTION IN ASSOCIATION

"I am able to report that our more or less desultory efforts have resulted in securing members to the number of 148, with an annual sale and delivery of 2,200,000,000. Surely, quite a satisfactory growth so far as the capacity is concerned, when we consider that this capacity represents about thirty per cent. of the total amount of brick marketed in an average year thruout the country. The geological survey shows that the country, in normal times, requires about seven thousand millions of common brick. The result is not so satisfactory when we compare members for I am advised that there are in this country some four thousand manufacturers of common brick. And yet, to show the national character of this movement, permit me to tell you that we have members now in thirty-three states of the union. We have seventeen in

Illinois, sixteen in Connecticut; twelve in New York, eleven in Texas; nine in Ohio; six in California; seven in Missouri; six in Pennsylvania; four each in Iowa, Kentucky and Virginia; three each in Arkansas and Wisconsin; two each in Kansas and Louisiana and Mississippi; one each from Colorado, Florida, Georgia, Maryland, New Jersey, Nebraska and New Hampshire. We had, until this morning, only one member from Oklahoma. We now have thirteen; one also in South Carolina, Tennessee, Utah, Vermont and Wyoming; so there is quite a scattered membership, showing that the need for a national association is not felt in one section of the country alone.

FUTURE DEPENDS ON THOSE ASSEMBLED

"Now, the future of the association, gentlemen, depends upon you, who are here assembled. Those who were present at its birth, herewith transfer its care to your hands. We feel that we have done little more than call you together. The constitution and by-laws, adopted by us in June of last year, are merely tentative instruments. You, who are here assembled, whether you are members as yet or not,—and I want to emphasize that, we are not going to pay any attention to the question as to whether or not you have already signed your name to an application blank, but anyone who is a common brick manufacturer, so far as the present board of directors and management is concerned, shall have full recognition, the same recognition that members have. You are all called upon to determine what the permanent constitution and the by-laws should be. We propose to dump the contents of these tentative documents into the committee, with instruction to amend, eliminate, add to or submit to this convention an entirely new foundation for the Common Brick Manufacturers' Association. Not even the name Common Brick Manufacturers' Association of America is to be considered sacred by the committee or the convention. Your present board of directors and the officers of the association, under the terms of the tentative by-laws, automatically become extinct today.

"Now, in addition to adopting a new constitution and new by-laws, it will become your duty to elect a new board of directors, and I trust the committee on by-laws will give careful consideration to the question as to how many members the new board shall consist of. There is a likelihood that there may be a conflict of ideas on the committee, prob-

ably on the floor of the convention, between the proponents of a large number, and the advocates of a small number. I have no recommendations to make on this point; but I do hope that the committee will carefully weigh the importance of representation on the board of every section of the country.

"Another question that this committee will have to wrestle with, is the question of tenure of office of board members. Shall all board members be elected every year, or shall they be divided into groups; certain numbers elected in one year, two or three or even a longer period of years?

TO CONSIDER COST ACCOUNTING

"Now, these are general matters pertaining to the organization. I am satisfied that you will not be content to leave Chicago after having solved these problems. There are other specific things which you at least will wish to hear something on. From answers to letters of inquiry, we believe it to be the consensus of opinion among brickmakers, that cost accounting should be given considerable attention. Consequently, a paper on this all important subject will be presented by H. W. Conway, as you will observe from your program.

"Now, it is not beyond the range of possibility that a uniform system of cost accounting will at some time in the near future be required by the government. It therefore behooves us to give this matter careful consideration for this reason alone, even tho some of us should be foolish enough not to believe that this matter is not of importance to our own welfare.

BRICK ADVERTISING A BIG SUBJECT

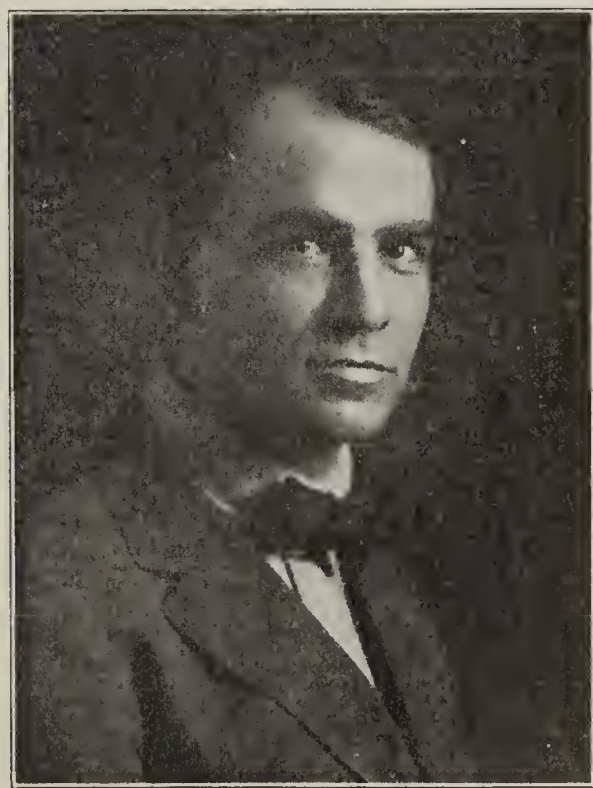
"Then as to advertising. Is it necessary to advertise common brick? I was among the number who answered 'no' and answered no emphatically, when ever and as often as this question was asked. I know, and you know that our product is the best building material made. It is not injuriously affected by the elements, by fire, by frost and not even by time. We know this. But does the general public? Certainly not. And I think they should know. And if we do not impart this information to them, who will? We should make it our business to keep our knowledge of our own product constantly before them, telling them over and over again that brick is by far the best and cheapest build-



Max D. Almond, of Corsicana, Tex.



George A. Parry, of Boston



Tom W. Green, of Sioux City, Ia.

THREE OF THE TWELVE DIRECTORS FOR 1919.



Fritz Salmen, of Slidell, La.



Warren Griffiss, of Baltimore



John P. Cahoon, of Salt Lake City

THREE OF THE TWELVE DIRECTORS FOR 1919.

ing material in the world, and that none other can compare with it. Just think of the method adopted by the United States government with relation to the placing of the various Liberty Loans. Every intelligent person in the country knew all about the need of the country for funds; knew all about the necessity for issuing bonds, and yet what an advertising campaign was carried on by the United States government! You could not turn your head in any direction without having a poster of some kind concerning the loan staring you in the face. You would have to have been blindfolded all the time to escape the sight of some kind of a poster on this subject. And yet there are some who would say that brick does not require advertising! Not every kind of advertising! Not every kind of advertising will bring results; not the placing of your card in a daily paper, or haphazard and spasmodic advertising. You might as well throw your money in the sewer as advertise in this manner and expect results therefrom. But systematic advertising, organized advertising, intelligent advertising, advertising directed by some person or agency who will first survey the situation, familiarize himself with all the advantages of your product as compared with competitive materials and so forth, and then start his campaign. If he will continue for a long time such advertising, such intelligent advertising, it must bring results. We have asked the N. W. Ayer Co., of Philadelphia, to tell us all about this subject, and there is therefore no need for me to try to cover it at this time. The Ayer people have sent on their representative and you will hear from him.

FIRE AND LIABILITY INSURANCE

"Then there is the question of insurance, both fire and liability. They are important in the matter of cost. Most states in the union now require all manufacturers to carry a liability insurance. A few brick manufacturers are large enough producers of brick to carry this insurance themselves. Has it ever struck you as being possible that brick manufacturers could form their own liability insurance companies in a given community and save a lot of money by so doing? My company, the Illinois Brick Co., furnishes a concrete example of the possibilities along these lines. We have been carrying our liability insurance at a rate of a

little more than half the rate exacted by the board companies, and despite the fact that we have had several hundred, I dare say almost five hundred accidents, (most of them slight, it is true), yet quite a number very serious and some three or four deaths, still I have not used up half the premium, so that our insurance, that is the insurance of the Illinois Brick Co., costs us about twenty-five per cent. of what it costs you gentlemen. It would be well, gentlemen, if you would give this question some thought. Henry R. Corbett will have something very interesting to say to you on this subject when his turn comes.

"The Department of Labor has asked us to give Frank J. Pollay an opportunity to say something on the question of the cost of labor to you. The danger arising from a dissatisfied labor element in this country is so appalling, that we must give first place to this important subject in running our yard, and I believe you will join with me in saying rather anything than bolshevism in this good country of ours.

"Last, I wish to call your attention to a paper prepared by our own W. N. Cary, entitled, "Our Association." I am familiar with the contents of this paper, I can assure you that a splendid treat awaits you.

"I believe that in addition to forming a good, strong national association, the brick manufacturers should form local organizations in their respective localities. Some of the things that I have mentioned here, particularly good, sensible advertising, cannot be done by a local organization with effect; but there are other things that can better be done by local organization, things that cannot possibly be undertaken by a larger body. For that reason, local organizations should be formed.

"Now, gentlemen, it is a foregone conclusion, that this organization is going to live and prosper. We have the members to draw from; we have the talent necessary for the building up of an association, and some time, and that soon I trust, we are going to find a man, the Moses who will lead us out of the wilderness of confusion and unsatisfactory business conditions, into the promised land, where we shall receive a fair return on our efforts. All that is necessary to bring this about, is that the spirit of enthusiasm for this association pervade all its members to such an

extent that all of you will become missionaries in the cause. And when, as a result, we shall have gathered in all the common brick manufacturers of the country and swoop down on our next convention like an avalanche, four thousand men strong, then we will no longer have cause to lament the deplorable condition of the common brick business."

TO PAY DIRECTORS' EXPENSES

Following Mr. Schlake, it was voted by the convention that in the future the association should pay the expenses of the board of directors for attending the meetings of that body during the coming year.

AN EXCELLENT PAPER

A very well prepared and much-to-the-point paper was then read by W. N. Cary, of Albany, N. Y., entitled, "Our Association." It is fully expected that in the next or following issue it will be possible to print in full this exceedingly valuable message from one of America's most experienced and clear-sighted brick manufacturers.

A good discussion followed the reading of Mr. Cary's paper, in which the following participated: Warren W. Ittner, Belleville Brick & Tile Co., Belleville, Ill.; J. T. Reynolds, of Connecticut; J. A. Mercier, Mercier-Bryan-Larkins Brick Co., Detroit, Mich.; G. H. Stilwell, Merrick Brick Co., Syracuse, N. Y.; H. R. Clark, The Aetna Brick Co, East Berlin, Conn; John W. Reagan, Knoxville Brick Co., Knoxville, Tenn.; Geo. A. Parry, Boston Brick Co., Boston, Mass.; L. S. Collins, Los Angeles Brick Co., Los Angeles, Cal.; C. W. King, Central Connecticut Brick Co., New Britain, Conn.; John S Haggerty, Haggerty Brick Co., Detroit, Mich., and Tom W. Green, Tom Green Brick Co., Sioux City, Iowa.

The comments of these men were to the effect that Mr. Cary "hit the nail on the head" and that the various evils which he mentioned were existent and ought to be remedied. The discussion developed a good deal of material for the committee on permanent constitution and by-laws. It was finally decided by a raising vote of the convention that there is a necessity for a national organization of common brick manufacturers.

THURSDAY MORNING SESSION

"At yesterday's session," said Mr. Schlake, in opening the session on Thursday morning, February 13, "you wisely passed a resolution to the effect that it is the sense of the brickmakers here assembled to have a national association of a kind that we are attempting to form. I am satisfied that those of you who were fortunate enough to attend the banquet last night and who heard that even the Government is urging you to get together, are more firmly convinced this morning that you were right when you passed the resolution of the wisdom of getting together.

"When we started to arrange the program for this convention we had so many subjects before us that it was hard to determine just what would interest you and for a time it looked as tho the subject matter which is to be discussed this morning might not be included, but as a last consideration we finally forced other subjects out and in a way, if I might put it so, squeezed this one in. I am sure that you will be glad to hear what H. W. Conway, of the Barkwill-Farr Brick Co., Cleveland, Ohio, has to say on cost accounting. He is competent. When I stated that we had the talent I knew what I was talking about. Our friend Cary, who submitted the paper yesterday, is a manufacturer of common brick. Mr. Conway is also a common brick manufacturer."

Mr. Conway spoke on "Cost Accounting as Applied to

the Brick Business." It was one of the best messages that has ever been given on cost accounting as applied to the manufacturer of common building brick and will have space in a near future issue of *Brick and Clay Record* where it will be reproduced in full, together with the forms which Mr. Conway explained.

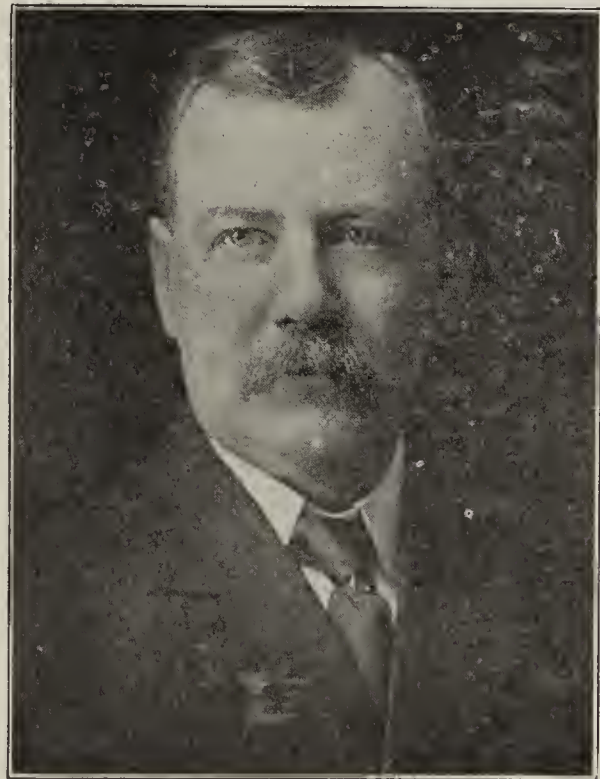
LIVELY INTEREST IN DISCUSSIONS

The first annual meeting of the Common Brick Manufacturers' Association of America was characterized by the very lively discussions which followed the reading of papers. The one read by Mr. Conway was no exception, and a number of the manufacturers took part. Not a few questions were directed to the author of the paper, who answered them in a very able manner.

BOOSTS FOR INTEREST IN A. C. S.

Warren W. Ittner made a very extended announcement of the new brick and tile division of the American Ceramic Society, in which he is very much interested, Mr. Ittner said in part:

"In the brick and tile section, Marion W. Blair, who is now located in West Virginia, was appointed chairman. When the time came for the different groups to break up and go to their various meeting places, we found that altho most of the other divisions were very well attended, in fact, some of them were very large, but that there were only four of us in the brick and tile section. The number necessary to form a section is ten. We proceeded on the theory that we would hunt thru the meeting of the American Ceramic Society to find members interested in brick and tile. We did not find any. It seems the American Ceramic Society has grown away from the commoner grades of clay



J. T. REYNOLDS

wares and there has been very little attention given to those grades on the program.

"When we stated our predicament on the floor at the meeting, it was the opinion of the members there present that our problems are just as vital and just as technical and intricate as the problems connected with the manufacture of

the highest clay grades. We perhaps do not need a ceramist to direct our brick plants, but we do need a ceramist to investigate certain technical problems and put us straight.

THE PROPER HANDLING OF TECHNICAL PROBLEMS

Mr. Blair and myself went to the meeting of the N. B. M. A. at Pittsburgh and made this very announcement on the floor at their meeting. The N. B. M. A., as you know, has had a committee on technical investigation. That committee has done a great deal of very good work, but the work is not extensive enough. It has taken them several years to cover one subject, one problem perhaps, and the work is very slow. It occurred to us that the American Ceramic Society, and this brick and tile section of the American Ceramic Society is the vehicle thru which technical problems connected with the brick and tile manufacturing should be worked out.

"I am not here to secure from the brickmakers any official endorsement of this society, and this section of it, but what I urge is this, that every member of this association who is not now a member of the American Ceramic Society should be a contributing member. You don't have to become an associate or full fledged member of the American Ceramic Society. The society, and especially the brick and tile group of it, deserves the support of the common brickmakers of America, and you should give it your whole support by becoming associate members, and then adjoining the brick and tile section. You do not necessarily have to attend the meeting, but when I go back to the next American Ceramic Society meeting, which will very likely be held in mid-summer—but the matter will very likely not come up again until the annual meeting a year from now—I want to find that we have a large brick and tile section in that society.

ALL BRICK CONVENTIONS IN SAME CITY

Mr. Schlake closed the session by saying: "There is one thing more to which I would like to call your attention, and that is, that an effort be made in the course of the year to bring to the convention city all brick manufacturers, or associations—any one in any way connected with the clay industry—to the same city, and the conventions be held at the same time. Let us so far at least co-operate with others as to try to get them to meet with us. Let us get in touch with the N. B. M. A. and see whether that organization and others cannot meet at the same place. Let us see whether the face brick, paving brick, and, if you please, the hollow tile people, will meet at the same time and place. That will give such of us who have an interest in other clay products than common brick an opportunity to mingle with them."

THURSDAY AFTERNOON SESSION

With C. H. Bryan, vice-president of the association, in the chair, the session on Thursday afternoon, February 13, was called to order. After a few preliminaries, John W. Hansell, of the N. W. Ayer Co., Philadelphia, Pa., spoke on "Possibilities in Advertising."

Mr. Hansell was asked a number of questions when he was finished speaking, all of which showed that a publicity campaign is going to get very serious consideration from the Common Brick Manufacturers' Association of America. It was pointed out that advertising is not a panacea but that it is necessary to have good distribution and a sales force well organized to follow up inquiries and to make good on the money spent for space.

The matter of a trade mark for members of the Association to be placed on every brick made by such member-manufacturers and linked up with the proposed national advertising campaign, called for an interesting discussion. The

question as to what it would cost the Common Brick Manufacturers' Association to have an analysis of their field made and an estimate of cost for a national campaign compiled, was brought up. A motion was then passed, instructing the board of directors of the association to start a preliminary movement to ascertain the possibilities of advertising common brick in a national way.

Henry R. Corbett, of Chicago, Fellow of the American Institute of Actuaries, then read a paper on "Cooperation in Insurance."

CLOSING DAY

The gathering on Friday morning, February 14, was a "town hall" meeting. The purpose was to discuss any subjects that might be brought up on the floor. Mr. Schlake opened by stating:

"The one important thing for us to do now, it seems to me, is to increase our membership. No matter how strong a board of directors you are going to elect, no matter how efficient your officers may prove to be if they stand alone, if they do not have your cordial and enthusiastic support in this movement, the Common Brick Manufacturers' Association of America is not going to amount to much. To me it seems necessary that all of you do what was said in the very first meeting that we had, that is, to go out when you return to your respective homes and gather in members. It is members we need now as well as output. It is not enough that we have seventy-five per cent. of the output of brick represented in this association. We want the members because there is a certain inspiration in numbers from which you can not get away.

"Now, let us go out in our respective districts and gather in the brick manufacturers. It is going to be a hard task. You are not going to succeed in getting them all in. If you quit after your first effort and after you have met with some disappointments, you are not going to have success. You will have to keep everlastingly at it. You have got to see your prospective member again and again. You will have to be patient with him. Just remember, you will catch more flies with molasses than with vinegar. Yet, I know that it is the disposition of the average brick manufacturer to pummel the fellow that is not with us. We should realize, and those of us who are assembled here do realize, the importance of concerted action, and concerted action means members and we have got to get them in."

WILL ERECT BILLBOARDS

The matter of publicity and advertising was then brought up and discussed by a number of manufacturers, it being the feeling that altho the common brick business is largely a local affair, there is plenty of room for national advertising to benefit the entire industry. It was pointed out that it is not so much the pushing of an individual's brick that the association wants to undertake, but rather to impress the word "brick," and some knowledge of its use, upon the minds of every man, woman and child in America. The matter of signs and billboards was brought up and thoroly discussed. A number of manufacturers arose and pledged themselves to erect at least two such advertisements in the vicinity of their plant or in their town carrying the message "build with brick."

A number of changes were made in the constitution and by-laws of the Association so that it will now be necessary to issue a new set. Corrected constitution and by-laws will appear in the next issue of *Brick and Clay Record*.

REPORT OF NOMINATING COMMITTEE

The nomination committee presented the following names for directors of the association for the ensuing year: Wm.

Schlake, Illinois; Warren Griffiss, Maryland; W. N. Cary, New York; C. H. Bryan, Michigan; Ernest Barkwill, Ohio; Tom W. Green, Iowa; J. T. Reynolds, Connecticut; Max D. Almond, Texas; Geo. A. Parry, Massachusetts; B. W. Ballou, Kansas; Fritz Salmen, Louisiana; John P. Cahoon, Utah.

It was explained that while the names of twelve directors were presented, it was the intention ultimately to have eighteen directors representing every section of the country. The names above listed were subsequently elected to the office of director.

At a meeting after lunch the following officers were announced, which were elected by the directors for the year 1919:

Wm. Schlake, President; C. H. Bryan, vice-president; Ernest S. Barkwill, treasurer, and C. P. Mertens, temporary secretary.

THE FOLLOWING COMMON BRICK MANUFACTURERS REGISTERED AT THE FIRST ANNUAL CONVENTION OF THE COMMON BRICK MANUFACTURERS' ASSOCIATION OF AMERICA

J. B. Garrard, Standard Clay Co., Tacoma, Wash
Ole Arnegard, Ole Arnegard, Hillsboro, N. D.
Jno. F. Osborne, Corinth Brick Co., Corinth, Miss.
R. H. Pratt, Calumet Brick Co., Chicago.
F. H. Kiest, Illinois Brick Co., Chicago.
W. E. Brogdon, Tenn. Brick & Tile Co., Dyersburg, Tenn.
Jno. W. Reagan, Knoxville Brick Co., Knoxville, Tenn.
Arthur C. Kennett, North Star Tile Co., North Star, Mich.
E. S. Barkwill, Barkwill-Farr Co., Cleveland, Ohio.
H. J. Farr, Barkwill-Farr Co., Cleveland, Ohio.
R. J. Dawson, Barkwill-Farr Co., Cleveland, Ohio.
L. B. Koblitz, Barkwill-Farr Co., Cleveland, Ohio.
H. W. Conway, Barkwill-Farr Co., Cleveland, Ohio.
Jas. Ruby, Barkwill-Farr Co., Cleveland, Ohio.
J. M. Beville, Barkwill-Farr Co., Cleveland, Ohio.
C. A. Noll, Blackwell Brick Co., Wichita, Kans.
C. H. Bryan, Mercier-Bryan-Larkins Brick Co., Detroit, Mich.
J. A. Mercier, Mercier-Bryan-Larkins Brick Co., Detroit, Mich.
John S. Haggerty, Haggerty Brick Co., Detroit, Mich.
Geo. H. Clippert, Geo. H. Clippert & Bro. Brick Co., Detroit, Mich.
Chas. F. Clippert, Geo. H. Clippert & Bro. Brick Co., Detroit, Mich.
Max D. Almond, Whiteselle Brick & Lbr. Co., Corsicana, Tex.
Tom W. Green, Tom Green Brick Co., Sioux City, Iowa.
Carroll Connett, St. Joseph Pressed Brick Co., St. Joseph, Mo.
Frank C. Layer, Builders Brick Co., Chicago.
Chas. Francis, Francis Vitric Brick Co., Muskogee, Okla.
Joseph Sidlo, Builders Brick Co., Chicago.
Walter E. Hilton, Dunkirk Brick & Tile Co., Dunkirk, N. Y.
Jul. H. Bach, Bach Brick Co., Chicago.
W. E. Weatherford, Globe Press Brick Co., Ferris, Tex.
J. B. Wilcox, The Alliance Clay Product Co., Alliance, O.
G. E. Burnham, Burnham Bros. Brick Co., Milwaukee, Wis.
H. Suer, H. Suer & Sons, Cincinnati, Ohio.
Edwin L. Mitchell, The Mitchell Brick Co., Cincinnati, Ohio.
F. H. Haar, The Busse Brick Co., Covington, Ky.
D. F. Morey, Morey Clay Products Co., Ottumwa, Ia.
Warren Griffiss, Baltimore Brick Co., Baltimore, Md.
F. E. Vanderhaden, Muskegon Brick & Tile Co., Muskegon, Mich.
Frank W. Alsip, Calumet Brick Co., Chicago.
W. W. Ittner, Belleville Brick & Tile Co., Belleville, Ill.
J. Fred Smith, Smith Brick Co., Omaha, Neb.
B. H. Richards, Jr., Richards Brick Co., Edwardsville, Ill.
W. P. Grath, Jersey Clay Pts. Co., Dow, Ill., and St. Louis.
John T. Hummert, Gem City Press Brick Co., Quincy, Ill.
J. Ford, Ft. Wayne Brick Co., Ft. Wayne, Ind.
Otto C. Oehler, St. Louis Continental Brick Co., St. Louis, Mo.
Edward J. Ryan, American Press Brick Co., St. Louis, Mo.
C. H. Alsip, Calumet Brick Co., Chicago.
Wm. F. Bach, Bach Brick Co., Chicago.
H. D. Drury, Drury Brick & Tile Co., Essex Jct., Vt.
John M. Heckard, M. Heckard & Sons, Canton, Ill.
M. D. Gilmer, Indianola Brick Co., Indianola, Miss.
C. P. Mertens, Chicago.
John J. Moroney, Grand Rapids Brick Co., Grand Rapids, Mich.
C. J. Weber, National Brick Co., Chicago.

Wm. Hammerschmidt, Lombard Brick & Tile Co., Lombard, Ill.
W. A. Howell, Collingwood Brick Co., Toledo, Ohio.
L. S. Collins, Los Angeles Brick Co., Los Angeles, Calif.
P. L. Gaston, Riverside Brick & Mfg. Co., Hattiesburg, Miss.
F. C. Aschemeyer, Hydraulic-Press Brick Co., St. Louis, Mo.
G. C. Cole, Lone Star Press Brick Co., Ferris, Tex.
E. H. Schilling, Farmers & Merchants B. & T. Co., Marshalltown, Ia.
R. S. Dingleline, The Columbus Contractors Sup. Co., Columbus, Ohio.
R. L. Byram, El Reno Brick Co., Oklahoma City, Okla.
E. R. Dick, Coffeyville Brick Co., Coffeyville, Kans.
R. O. Clark, The C. P. Merwin Brick Co., The R. O. Clark & Son Brick Co., East Berlin, Conn.
W. N. Cary, Cary Brick Co., Albany, N. Y.
J. H. Suderley, Sutton & Suderley Brick Co., Coeymans, N. Y.
V. H. Cartwright, Lacon Clay & Coal Co., Lacon, Ill.
C. W. King, Central Connecticut Brick Co., New Britain, Conn.
M. H. Donnelly, The Donnelly Brick Co., New Britain, Conn.
H. R. Clark, The Aetna Brick Co., East Berlin, Conn.
R. A. Moore, Duffney Brick Co., Mechanicsville, N. Y.
J. G. Mamer, Mamer Brick Co., Benton Harbor, Mich.
A. N. Dunlap, Ohio Brick Co., Toledo, O.
T. B. Weaver, Burke Brick & Tile Co., Ft. Smith, Ark.
Geo. A. Parry, Boston Brick Co., Boston, Mass.
William Schlake, Illinois Brick Co., Chicago.
Jas. R. Thomas, The Standard Brick Co., Crawfordsville, Ind.
J. F. Reynolds, The I. L. Stiles & Son Brick Co., North Haven, Conn.
Max W. Drury, Drury Brick & Tile Co., Essex Jct., Vt.
G. H. Stilwell, Merrick Brick Co., Syracuse, N. Y.
F. C. VanEseltine, Merrick Brick Co., Syracuse, N. Y.
F. R. Carter, Peoria Brick & Tile Co., Peoria, Ill.
B. J. Cummins, Merrick Brick Co., Syracuse, N. Y.
J. Drtina, Chicago Brick Co., Chicago.
J. W. Robb, Clinton Paving Brick Co., Clinton, Ind.
Edw. Langenberg, Langenberg Brick Mfg. Co., Stevens Point, Wis.
C. F. Mattes, Decatur Brick Mfg. Co., Decatur, Ill.
Jas. T. Howington, Coral Ridge Clay Prod. Co., Louisville, Ky.
Bernard F. Weber, National Brick Co., Chicago.
C. E. Vernay, Lacon Clay & Coal Co., Lacon, Ill.
Claude Smith, Smith Brick & Tile Co., Mason City, Iowa.
C. L. Smith, Smith Brick & Tile Co., Mason City, Iowa.
Geo. Stirling, Tom Green Brick Co., Sioux City, Iowa.
F. W. Butterworth, Western Brick Co., Danville, Ill.
J. M. Jenkins, Jr., Jenkins Brick Co., Montgomery, Ala.
S. Weidman, Wis. Clay Mfg. Assn., Madison, Wis.
Eben Rodgers, Alton Brick Co., Alton, Ill.
O. K. Edwards, Pacific Face Brick Co., Portland, Ore.
Hans Paulsen, Hans Paulsen, Rock Island, Ill.
W. H. Brecht, Flint Brick Co., Des Moines, Ia.
Jno. M. Stoner, Blair Brick Co., Cincinnati, O.
Thos. L. Herbert, Bush Brick Co., Nashville, Tenn.

Big Saving in Fuel Made by Clay Concerns

It is announced by the United States Fuel Administration that statistics of results obtained in fuel conservation by 4,000 clay products companies representing practically the entire industry have now been compiled by states and show an actual total fuel saving in this industry alone of 1,846,996 net tons during the first six months of 1918.

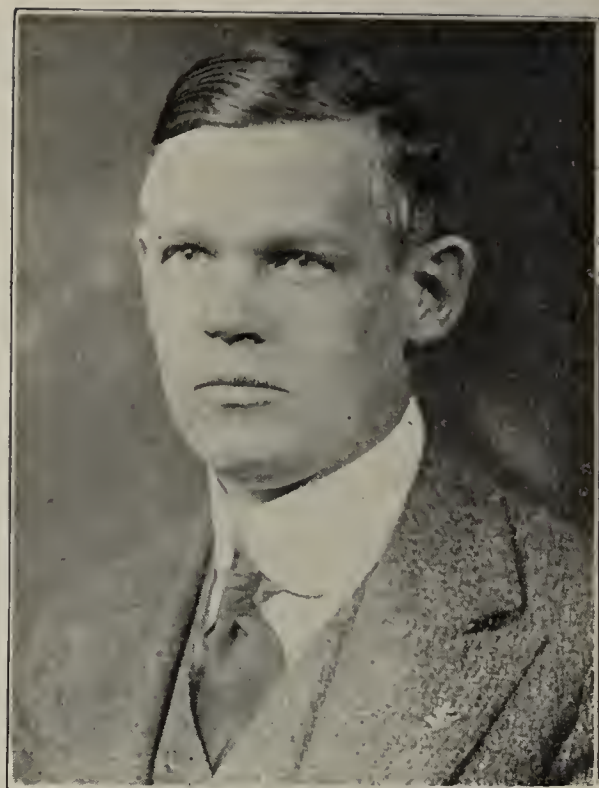
The various branches of the clay products industries with the percentages of curtailment and the fuel savings which make up the above total, are:

Industries Affected	Curtail- 6-months ment saving (per cent) (net tons)	
Brick, terra cotta, roofing, floor and wall tile, and sanitary ware.....	50	1,219,017
Hollow tile, drain tile, and sewer pipe.....	25	603,352
Stoneware (except chemical)	15	24,627
		1,846,996

The curtailments of fuel in the various branches of these industries were the result of voluntary agreement on the part of the manufacturers after a conference with the United States Fuel Administration.



R. T. Stull (on the left), president-elect of the American Ceramic Society, Who Has Had a Wonderful Career in the Clayworking Industries; R. H. Minton, Vice-President Elect, an Eastern Ceramist of Known Ability and Wide Experience.



PROFESSIONAL DIVISIONS MARK NEW EPOCH *in* A. C. S.

Subsidiary Organizations Formed at Twenty-first Annual Meeting, Pittsburgh, Pa., February 3 to 5, Show Promise of Great Accomplishments

MUCH REMAINS to be said concerning the twenty-first annual meeting of the American Ceramic Society, held at Pittsburgh, Pa., February 3, 4 and 5. Limited space precluded an extended narrative of the formation of the various professional divisions which, it is believed, is one of the most important forward steps ever taken by the society.

On Monday evening, February 3, the entire membership gathered into one room where the plans and purposes of these professional divisions were explained, following which the meeting adjourned to allow all those present to meet with their fellow members who were interested in the same field of endeavor, to organize a professional division.

The object of the professional division is to stimulate more interest in each of the separate fields of ceramics. The plan ultimately will probably follow along the lines of the meetings of the American Chemical Society. This society holds a meeting of its entire membership at the beginning of its convention and then it adjourns while the different sections meet separately after which the entire membership again holds a final session.

By following the above plan the work becomes more specialized and the interest in each division is much keener, as is naturally to be expected since only matters of direct concern to those in the section will be discussed. It is believed that before very long each of these professional divisions will be supporting a fellowship in some university where research of direct interest to each field will be carried on.

Owing to the fact that the number of abrasive manufacturers is very small there were not very many men in-

terested in this field at the meeting and consequently no division was formed. However, it will not be very long before F. C. Purdy will have this section organized. An account of the formation of the other professional divisions is given below.

U. S. POTTERS ASSOCIATION FORMS WHITEWARE DIVISION

The members of the United States Potters' Association, who were having a field day and holding their own business meeting during the time of the convention, attended the meeting of the American Ceramic Society in a body and heard the various papers on the program relating to their industry at this time.

At this time was also organized the whiteware division of the American Ceramic Society, made up chiefly of members of the United States Potters' Association. The scope of the work to be done by the whiteware division will, of course, be entirely different from that of the potters' association, since it will be purely technical. Men in the pottery or whiteware industries should support both organizations, since both are paramount to the success and proper advancement of the industry.

Charles L. Sebring was made chairman of this division, while Charles F. Goodwin, who is also secretary of the United States Potters' Association, was chosen as secretary of the whiteware division of the American Ceramic Society. At the present time no definite plans have

been made for the future but Mr. Sebring has stated that "Later we shall probably call a meeting of the executive committee and formulate definite plans for making this whiteware division a real, active one, and one of some benefit to the whole ceramic industry."

There is no doubt but that the American Ceramic Society offers the much desired medium to carry on the technical work of the pottery industry and every potter should support both organizations.

REFRATORIES DIVISION A DE LUXE ORGANIZATION

The manufacturers of refractories will be interested in learning of the formation of a professional division in this industry at the recent American Ceramic Society meeting.

Fully thirty members of the society, representing practically every phase of the industry, including chrome, magnesite, silica and fire clay brick, also higher grade refractories such as carborundum, etc., and even sagger manufacture, were present.

The organization was perfected by electing A. V. Bleininger as chairman, R. T. Stull, vice-chairman, and Raymond M. Howe, secretary. Following the election of officers, Mr. Bleininger asked each one present in the room to give his opinion as to the kind of work to be undertaken by this division. The consensus of opinion was that research should be done in each phase of the industry and more particularly in those branches which need it most.

It was found that there will be at least ten laboratories available to carry on this research work. The refractories field offers opportunity for considerable research work and it is quite likely that the National Research Council will contribute large sums for this purpose. Plans for the future indicate that this section will be of great aid in producing high-grade refractories and in finding better methods of manufacture. In order to make progress in any line of endeavor, it is absolutely necessary that co-operation of the manufacturers be given to its fullest extent. Hence, if you are a manufacturer of refractories, lend your support to this division of the American Ceramic Society and help them progress in the field which shows prospects for great development.

FEW MEN ON HAND TO ORGANIZE BRICK AND TILE DIVISION

Men interested in the brick and tile branch of the clay-working industry were conspicuous by their absence at the ceramic meeting and when the time came for the membership to split up and meet with their respective specialized interests to organize professional divisions, there were only about four or five men present to organize the section in brick and tile. All told there were probably not more than a dozen brick and tile men at the meeting.

One reason for the lack of interest of this industry in the American Ceramic Society meetings has been that the papers and subjects discussed at the meetings have dealt too much on the manufacture of fine ceramic ware

and subjects which do not apply at all to the manufacture of crude clay products. There is room for a vast amount of investigation in the cruder ware field, however, and such subjects as kilns, dryers, machinery, etc., still require a great deal of attention. Strength tests, specifications and other technical matters are far from being fully developed.

It is hoped that at the next annual meeting manufacturers of brick and tile will turn out in strong numbers and help organize a section of the American Ceramic Society which will deal with problems of their own specific interest. This division will grapple with problems entirely different and really out of the scope of the various clay products associations such as the American Face Brick Association, the Common Brick Manufacturers' Association of America, the Hollow Building Tile Association and others. Every member of the above associations should become at least a contributing member of the American Ceramic Society. The information that this division would gather for the industry would easily be worth the \$25 which is all that it costs to become a contributing member of the society. Copies of the Journal of the American Ceramic Society containing all the proceedings of this organization will then be supplied each month.

ENAMEL DIVISION PROVES TO BE LIVE BODY

What is going to prove to be a real live professional division of the American Ceramic Society is that of the enamel section which was organized at the convention held in Pittsburgh, February 3, 4 and 5.

About thirty-five men representing all branches of the enameling industry, including cast iron, kitchen ware, acid alkali-proof ware, enamel reflectors and other specialties, met to organize this division. After completing the organization at which John W. Sanders, of the United States Stamping Co., Moundsville, W. Va., was chosen chairman, and R. D. Danielson, of the Benjamin Electric Manufacturing Co., of Des Plaines, Ill., was elected secretary, and R. D. Landrum, appointed councilor, the papers dealing with enamels, which had been presented before the main meeting, were discussed in this section.

The paper by R. D. Landrum and L. J. Frost, on "Titanium Enamels," and the paper by Chester Treischel and L. E. Barringer on "The Cause and Control of Blistering," proved of unusual interest to all present and were thoroly discussed. Homer F. Staley offered work in the Bureau of Standards that would be of vital interest to enamellers and some of the subjects that would be taken up would be the chipping in kitchen ware and methods for physical testing. It was also suggested that a study of "fish scale" be made since this difficulty was one met by many manufacturers and it would be of vital interest to all makers of sheet steel enamels. It was advised that some effort be made to classify the various types of "fish scale" and the remedies suggested for same.

E. P. Poste, of the Elyria Enamel Products Co., made a plea for coöperation among the members in the work of the committee on standards in regard to the tentative tests as outlined for acid resistance.

It is expected that a paper on acid resistance tests will be published in an early issue of the Journal of the American Ceramic Society and that questionnaires be

sent among the manufacturers of enameled ware to bring out discussion of the merits of the tests as outlined by the standards committee.

THREE HUNDRED PROSPECTIVE MEMBERS FOR GLASS DIVISION

Fifty to seventy-five members of the American Ceramic Society are interested in the manufacture of glass. This gives a splendid start for the new professional division on glass which was formed at the same time that the other organizations found their start. There are fully 300 prospective members for this division and the outlook for this section is extremely bright, not only because of the large field to draw from, but also of the great opportunities for greater developments in this commodity.

There is still much to be done with regard to improvements in making glass. More has been accomplished during the past several years than ever before. For a while, the United States was hard pressed for chemical glassware and optical glass. Previous to the war, this country never knew how to make this product. Now, however, the manufacture of optical glass has reached a very successful plane due to the splendid work of the Bureau of Standards.

The formation of a technical division in glass will do much to improve the quality of this product and aid immensely in investigation work.

At the twenty-first annual meeting of the society there were sixteen papers read which dealt with the glass manufacture. This is a greater number than has ever before been prepared. This fact shows the interest displayed in this subject.

At the first meeting of the division held during the convention, C. H. Kerr was elected chairman and E. W. Tillotson, secretary. Both of these men are experts in glass manufacture and are widely known for the work they have done along practical and research lines in the glass industry. Following the election of officers, the papers on glass which were read at the meeting were brought to attention of the members and their subject matter discussed.

No definite plans for future work have as yet been made, but it is expected that within a short period arrangements will be made for a regular program of work to be followed. Every glass manufacturer should at least become a contributing member of the American Ceramic Society and join the glass division.

MUCH ENTHUSIASM SHOWN IN TERRA COTTA DIVISION

Among the industrial divisions launched at the American Ceramic Society meeting, was that of the terra cotta division. This division comprises all those engaged in the manufacture of architectural terra cotta, and at the initial meeting there were fifteen members signed up, representing nine companies, and including one member from the Bureau of Standards, and one university professor. There are about twenty-five companies engaged in this industry in the United States, and it is expected that the membership roll will comprise forty to fifty names when completed.

In perfecting this organization, F. B. Ortman, of the Northwestern Terra Cotta Co., Chicago, was chosen chairman, and R. L. Clare, of the Federal Terra Cotta Co., Woodbridge, N. J., was made secretary-treasurer; E. C. Hill, of the New York Architectural Terra Cotta Co., Long Island City, N. Y., and Barney S. Radcliffe, of the Midland Terra Cotta Co., Chicago, were appointed members of the program committee.

Much enthusiasm was shown in this division, and no time was lost in formulating plans for active work during the coming year. It is contemplated that a large majority of the membership will at once undertake special research work on some phases of the manufacturing problems confronting the industry, keeping in touch with all of the other members by a plan of correspondence which has been worked out. It is expected that this plan of operation will result in a considerable number of papers, covering various topics for presentation at the regular meetings of the American Ceramic Society.

The proposed work of the division has the enthusiastic endorsement and pledge of support by resolution of the National Terra Cotta Society.

* * *

Building Ready to Resume in Cleveland as Finance and Material Interests Unite

Following the appointment of a special committee by the mayor's advisory war board recently, Cleveland, Ohio, is ready to resume building operations on something like a normal scale. Much has depended upon the establishment of something like a definite price basis for material, and assurance from the banking and other financial interests that building operation itself will receive the support and backing from that quarter. Between now and March 1 a move will be made by the financial interests of the community to assure a definite amount of money, probably in the millions, to be apportioned out at intervals, to keep the operations moving. Meanwhile a decision is expected to be reached by the material interests on a plan for stabilizing prices for all descriptions of material. These and other uncertain factors will be cleared up in the next two weeks, according to present plans, says C. L. Bradley, vice-president of the Union Commerce National Bank, and chairman of the special building program committee. The program will consist, in its initial stages of arriving at definite conclusion as to the price of material, cost of labor, agreement between employers and employes that contracts will not be held up by labor disputes, and other vital factors connected with the work.

No positive report is forthcoming from the material interests in Cleveland as to prices as yet, because they wish to be assured of a corresponding reduction in labor costs and other items if prices on materials are really lowered. According to Utilities Director Farrel, who is investigating the labor angle of the situation, no promises can be made in that connection at the moment, because certain negotiations on contracts soon to expire have not been cleared up. H. C. Robinson, vice-president of the Guardian Saving & Trust Co., who has been canvassing financial interests with a view toward obtaining assurances of backing projects, states that all have not yet been approached, but that so far promises that they can be depended upon to do their part have been forthcoming from those approached. W. R. Creer, president of the Cleveland Savings & Loan Co., who has been interviewing savings and loan interests, reports that these institutions have plenty of money on hand for dwelling construction purposes and that they will be glad to use these funds for this purpose.

SOME BY-PRODUCTS *of* *the* NEW FEDERAL TAX LAW

The Value of Good-Will, Appraisal of Leases, Proper Basis for Inventories, Cost Accounting Methods, Etc., All Enter Into the Problems Which Must Be Solved by the Clay Products Manufacturer in Figuring the New Taxes

By Waldon Fawcett

GRANTED THAT THE MAIN responsibility imposed upon the clay products manufacturers by the new Federal taxes is that of raising the cash to pay these new levies, the fact remains that there are some incidental responsibilities—by-products they might be termed—that are by no means to be ignored. The valuation of good-will, the appraisal of leases, the determination of the proper basis for inventories, and questions of policy in cost accounting are bound up in these side issues. All the same, it will be difficult for the average man in the industry to do any accurate figuring on his taxes until he has disposed of these supplementary responsibilities. It may appear like putting the cart before the horse but here is a case where the business man can calculate his liabilities only when he knows what assets he possesses.

SYSTEMATIC BOOKKEEPING ESSENTIAL

At the head of the new responsibilities that come tagging along with the paying of heavier Federal taxes is the obligation to "keep books" with a system and in a measure of detail not heretofore followed in all business houses. The Revenue Act of 1918, in even greater measure than its predecessor, the Revenue Act of 1917, requires, for the calculation of individual income taxes, corporation taxes, excess profits and war profits taxes, recourse to more or less scientific methods of cost accounting. It must be borne in mind that the new law gives the U. S. Commissioner of Internal Revenue power to require any taxpayer to take inventories whenever the Commissioner may deem it necessary in order to clearly determine the income of the taxpayer. Obviously the best way to forestall such a demand is to have one's house in order in a bookkeeping or cost accounting sense.

It will not be surprising if the necessities of the heavier Federal taxes that are here to stay for a term of years, prompt an effort to secure the adoption in all branches of the clay products industry of standard methods of cost accounting. The hollow building tile interests have recently taken the plunge into the pool of standardization and are well satisfied with the results. The tile men were driven not by the necessities of figuring complicated tax bills but by the earlier responsibilities in connection with the fixing of prices on war contracts. However the incentive is of no consequence in considering the outcome.

RECOMMENDS STANDARDIZED ACCOUNTING METHOD

Just here, there may be no harm in letting our readers

into the secret that the Federal Trade Commission has been inspired to undertake its present crusade for standardized cost accounting largely because of the success that attended its missionary work in the case of the tile interests. The trade body has never undertaken to install cost-accounting systems but in connection with its price-fixing and cost-of-production work it has frequently been found expedient to cooperate with trade associations in order to bring about the adoption of uniform and improved cost-accounting methods. This was the case in the hollow building tile industry. The Trade Commission, when it undertook to analyze that business for the sake of fixing prices on war purchases, found wholly inadequate cost accounting systems. Therefore the Federal organization undertook to cooperate with the building tile industry in behalf of better cost accounting and the result has been so gratifying that Chairman Colver of the Trade Commission said recently that he was ready to not only recommend the adoption of standardized accounting systems specifically adapted to each branch of the clay products industry but likewise the adoption of cost and profit accounting for individual products so that a manufacturer or distributor can tell instantly and accurately what branches of his business are returning a profit and what departments are not thus contributing to net earnings.

For all that all the Government officials who will direct the assessment and collection of the new Federal taxes are urging that manufacturers and merchants, for their own sake, adopt up-to-date methods of cost accounting that will render it unnecessary to call in a lawyer every time a tax bill is to be paid, it cannot be emphasized too strongly that Uncle Sam has no disposition to quarrel about petty details. For example, inventories for tax purposes may be made on the basis of either actual cost or market value. Moreover, new language introduced in the new Revenue Act authorizes the acceptance of inventories made in accordance with whatever accounting practice prevails in the industry involved and which may be expected to most clearly reflect the income of the firm that is making up its tax payment.

EXPLAINING THE WORD "OBSCOLESCENCE"

A brand new responsibility that is faced by the clay products manufacturer when he takes his 1918 tax "return" in hand is that of interpreting, in his individual case, the meaning and application of the word "obsolescence." Obsolescence, be it explained, is a word that appears for the first time in this year's version of our tax statutes and it

manifestly holds possibilities for the business man who has machinery or equipment of any kind that, thanks to the spirit of invention stimulated by the war, has become more or less obsolete during the past year.

The whole subject of depreciation is a responsibility that merits the most careful consideration from clay products manufacturers when taxes are as high as they are just now. Oddly enough, the word "depreciation" does not appear where one would naturally expect it in the new Revenue Act but instead we have the expression "a reasonable allowance for the exhaustion, wear and tear of property used in trade or business." Clay products manufacturers who have frequently been admonished that they have in the past cheated themselves by not taking due credit for depreciation have also to give heed, just now, to the status of any extra facilities acquired during the war period. The new law is supposed to take care of this also by means of a paragraph which authorizes a reasonable deduction for the amortization of the cost of buildings, machinery, equipment or other facilities provided for the production of articles contributing to the prosecution of the war. This is a part of the new Act that will, presumably, be of keen interest to many firms in the trade, as, for example, the concerns that digressed from their regular line to undertake the construction of concrete barges and the firms that indulged in notable expansion of capacity overnight in order to meet the war-time demand for refractories.

DEDUCTIONS IN COMPUTING INCOME

Clay products manufacturers who want all that is rightfully coming to them face rather delicate responsibilities in the application to their own individual cases of one of the highly important but unheralded features that have been incorporated in the Revenue Act of 1918. This feature appears in that portion of the Act which enumerates the deductions that are allowed in computing net income. In so many words it says: "In the case of mines, oil and gas wells, and other natural deposits, a reasonable allowance for depletion and for depreciation of improvements according to the peculiar conditions in each case, based upon cost, including cost of development not otherwise deducted." This saving clause was inserted in the Act mainly thru the efforts of oil men rather than thru the intercession of clay men, but it will be realized that it provides an instrumentality whereby tax assessors and collectors can use their discretion to afford relief with respect to deals involving clay deposits. There is even a provision to the effect that in the case of leases the deductions allowed by this newly devised authorization shall be equitably apportioned between the lessor and lessee.

The chief bugbear of the old war tax program, that is the schedule of 1917, for many clay products manufacturers was found in the difficulty of getting proper and deserved credit in "invested capital" for good-will and other kinds of intangible property. There was, for example, the predicament of the rather numerous concerns in the trade that have gone along for years with the modest capital stock on which they started in business. It had been very usual in the case of such a close corporation for the few stockholders, all active members of the firm, to put their earnings back into the business until there had been built up an advertising investment and an annual turnover out of all proportion to the old, original authorized capital. It was only when the war tax legislation came along and took heed only of capital stock or shares issued prior to the beginning of the war that the disadvantages of this system were suddenly revealed. Likewise, there might be instanced the

dilemma of clay products manufacturers who could boast only a modest plant investment or "tangible" property but who held valuable franchises conferring exclusive territorial rights for the manufacture of patented specialties such as interlocking tile.

RECOGNITION OF INTANGIBLE PROPERTY ALLOWED

Chances are that most of the men in the industry whose assets are represented to any considerable extent by good will, patents, franchises, trademarks, trade brands, secret processes or formulae felt that they never did get a square deal under the war tax system heretofore prevailing. When the new Revenue Act was being framed vigorous and persistent representations were made with regard to the shortcomings of the old law and the necessity of giving proper credit for good will, the real value of which cannot be demonstrated in terms of dollars and cents because it has never changed hands for a consideration. However, the new law does not do much better on this score than the old. The provisions that the Senate wrote into the bill to give recognition to the rights of the firm or individual that has built up valuable business prestige were cut out in conference and thus the clay products manufacturer who has not fully capitalized his franchises, good-will, trade names, etc. faces, in only slightly less acute form, the old responsibility of winning recognition for his "intangibles."

To be just tho it must be admitted that the new law affords some improvement over the old. It allows recognition as invested capital to intangible property "bona fide paid in for stock or shares" in an amount not exceeding the actual cash value of the property at the time paid in or the par value of the stock or shares issued therefore. However, there is a string to this to the effect that in no case shall the valuation placed upon "intangibles" exceed in the aggregate 25 per cent. of the par value of the total stock or shares of the corporation outstanding at the beginning of the taxable year. In cases where it is difficult to determine the value of the intangible property in a mixed aggregate of tangible and intangible property the U. S. Commissioner of Internal Revenue is allowed to exercise his discretion to some extent but generally speaking, under the new Act as under the old, there are knotty problems for the concern that does a sizable business with only a limited amount of assets visible to the naked eye.

HIGHWAY TRANSPORT ALSO ENTERS IN

A responsibility that for many a clay products manufacturer trails the advent of the new Revenue Act is that of taking stock carefully of the means of transportation to be employed. With railroad freight rates sharply increased and likely to be advanced another 10 per cent., the thoughts of many a man in the industry have turned to motor trucks. But the new tax law allows highway transport nothing on the rail lines unless the business man owns and operates his own trucks. That is to say, motor truck freighting and express service will henceforth involve the same Federal tax as transportation by rail, the law specifying a levy of 3 per cent. of the amount paid for transportation by any form of mechanical motor power when in competition with carriers by rail or water. Another new angle of responsibility is supplied by that innovation of taxation whereby a special 10 per cent. tax is levied on the net profits derived from the sale of the products of any mine or quarry in which children under sixteen years of age are permitted to work and any workshop, factory or manufacturing establishment where children between the ages of fourteen and sixteen are permitted to work more than eight hours per day.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Cutting Power Costs in Half

Thru the kindness of Anton Stiel, one of the owners of the Jefferson (Wis.) Brick & Tile Co., we are able to give the data taken from their plant showing the comparative cost of power in using steam power and electrical power. This plant is a small yard making common brick by the soft-mud process and also manufacturing drain tile. The amount of saving is remarkable and is no guesswork—the costs being taken from accurate records which were kept in the office of the Jefferson Brick & Tile Co.

The charge for electrical power made by the central station is as follows:

6c per kilowatt for first	200 kilowatts....	\$12.00
5c per kilowatt for second	200 kilowatts....	10.00
4c per kilowatt for third	200 kilowatts....	8.00

This is equivalent to \$30 for the first 600 kilowatts. All power used in excess of 600 kilowatts during the month is charged for at the rate of three cents per kilowatt. The minimum charge for a 100 horsepower motor is \$75 per month.

The electrical power used to manufacture 800,000 brick during the year of 1918 at the above costs for electrical energy was \$180.36 or 22½ cents per 1,000 brick.

During the year preceding this when steam power obtained thru burning with coal and wood the cost of these materials together with the oil needed amounted to 32.9 cents per 1,000 brick. An engineer was employed for \$3 per day and since 28,000 brick per day were manufactured this added 10.7 cents per day to the cost per 1,000 to be charged up against the cost of power. Thus by using steam power the costs amounted to 32.9 cents plus 10.7 cents or 43.6 cents per 1,000 brick. By comparing this figure with 22.5 cents which is the cost for manufacturing power when using electrical energy, to the cost of steam power it is seen that a saving of nearly one-half is made.

The cost of the coal and wood used is not given but these are indicated in the cost of power and the comparison can be made without these figures.

✻ ✻ ✻

Power Plants Make Big Fuel Saving

It is reported that thru the cooperation of the industrial power plants, which have thus far put in force the standing recommendations of the Fuel Administration to promote efficiency in the use of fuel in power plants, a saving of 7,000,000 tons annually has been effected. That is to say, in the first six months from the announcement of the national program, 3,500,000 tons have been conserved, at the same time maintaining maximum production in the factories.

Some industrial plants which have adopted the standard recommendations and kept systematic records report a fuel saving as high as 25 per cent., and the average is estimated between 10 and 15 per cent. This large economy is effected at practically no expense to the plant owner since the recommendations treat primarily of proper methods of firing and management in power plants. It is estimated that a

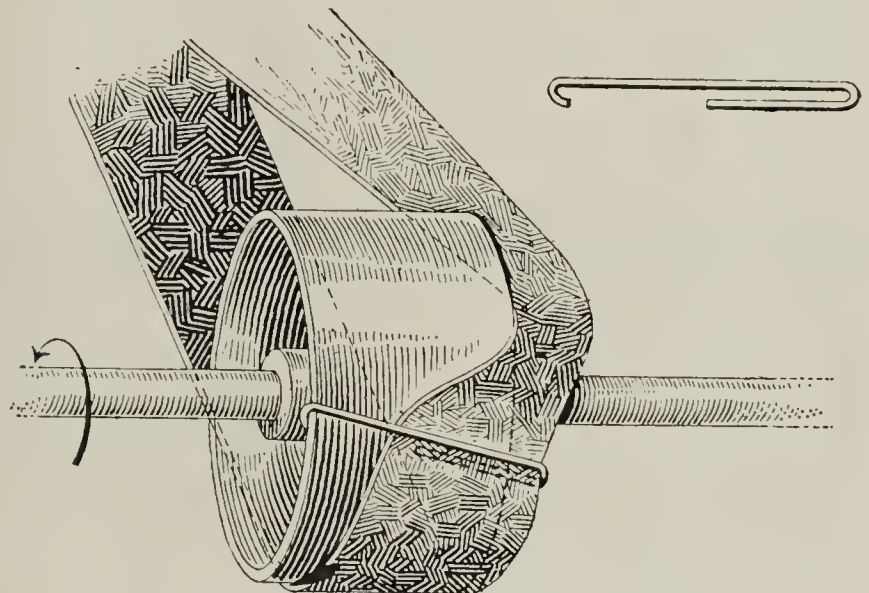
total annual saving of 25,000,000 tons of coal thruout the country is possible without reducing the output of the factories.

✻ ✻ ✻

Putting on Heavy Belts

The illustration shows a simple device for putting on heavy belts when it is necessary to shut down in order to do so, and where a rope is usually employed for the purpose.

Take a piece of ¼ or ⅝-inch round iron and bend it, as shown in the small sketch. Hook the short end over the edge of the rim of the pulley and the long end under the belt as indicated. Start the engine slowly, and when the belt is on it is not necessary to stop, because the short end of the hook will straighten out and disengage itself. It is a good plan to use a rod of as light weight as will answer the purpose, since it will straighten out



Method of Replacing Belt on Pulley.

and free itself with less stress on the belt. The iron hook then falls to the floor.—*Power.*

✻ ✻ ✻

Equipment for Exhaust Steam Dryer

The use of exhaust steam for drying purposes often results in uneven temperature and therefore poor dryer service. Utilizing exhaust steam for heating represents considerable saving, because a plant is thus enabled to make use of what would otherwise become a waste, but it should not be the policy to turn on live steam except in cases of extreme necessity or at night when the plant is not operating and the furnace must be kept under fire anyway.

In one instance, owing to the forgetfulness on the part of an engineer, steam was not turned on after the plant shut down, at noon Saturday, and there was no steam on until the following Monday morning. In this case the engineer was working under some disadvantage, due to the fact that his engine was overloaded a great deal. The plant was equipped with an oil separator, back-pressure valve and pressure-reducing valve, but it was out of order. The

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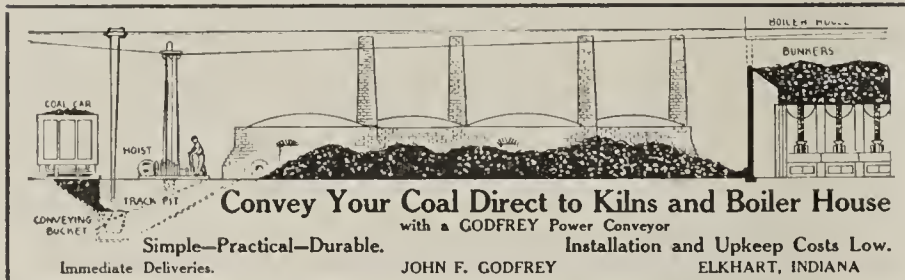
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back-pressure valve was set at eight pounds and when the engine was running under heavy load, there was often enough exhaust to produce this pressure. At other times, when the engine was running light, the pressure would drop and it was necessary to turn on the live steam at once.

It is not nearly so important at what pressure exhaust steam is supplied to a dryer as that this pressure be maintained without great variation. It is manifestly impossible to maintain even temperatures when the steam pressures vary from zero to eight pounds and it is also impossible to secure good drainage under such conditions. In every plant using exhaust steam for drying purposes the pressure should be kept uniform without depending on the engineer to do it manually. A non-return supply valve should be installed on the branch of the exhaust line supplying the dryer, and a pressure reducing valve to make up any deficiency in the exhaust steam when it falls more than one pound below the predetermined pressure.

* * *

IN the WAKE of the NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Personal

B. F. Weybrecht, president of the Alliance (Ohio) Clay Products Co., was a recent visitor in Columbus, looking over the brick situation in the Buckeye capital.

C. T. Bliss has now taken up his duties with the Cincinnati (Ohio) Clay Co., in the First National Bank Building, to succeed Louis Kopp, who with his brother, recently organized the Kopp Klay Ko., at Greenford, Ohio.

Frank A. Hoiles, president of the Alliance (Ohio) Brick Co., was in Columbus the latter part of February, calling on manufacturers and dealers. Mr. Hoiles is quite optimistic of the future and believes that there will be considerable construction work later on in the summer.

C. C. Stratton, at one time one of the largest manufacturers in Macon, Ga., died at the age of 72 years, on January 25, in Macon. He was for a number of years associated with the late J. C. Cabiness, the firm being known as the Stratton Brick Co.

Chester S. Hart, for many years at the head of the brick business that has borne the family name, died at his home in Taunton, R. I., at the age of 58 years. He was born in Taunton, a son of the late John W. Hart, and from boyhood was associated in the Hart Brick Yards.

California

Julia Morgan, architect, is at work on plans for a \$40,000 Y. W. C. A. building in Berkeley, Cal., to be erected near Sather Gate.

A new brick grade school for the city of Los Angeles, Cal., to be erected at East Seventh and Wilson Streets, at an estimated cost of \$90,000, will be started shortly.

Architect Albert C. Martin, of Los Angeles, Cal., is to prepare plans for a fireproof County Hospital for Ventura.

Just what the style of building will be has not been decided upon as yet. The estimated cost is \$20,000.

Reconstruction work at the pottery works of Gladding, McBean & Co., at Lincoln, Cal., is under full headway, and it is expected that general operations will commence in the near future. The big clay grinding mills are almost finished and carpenters are at work on their covering now.

The building activities in Visalia, Cal., are beginning to show signs of returning life. The January permits indicate an increase of over a hundred per cent. over the building permits of December, 1918. The outlook for February is even better and at least two brick building blocks are scheduled to begin during the month. The January permits included five new residences, the first homes to be started in that city for several months.

It is expected that the next few months will find a fair amount of business for the clay products interests under way in San Francisco, Cal. Several new factories have started up, evidently with the idea of getting into good running order in time for the resumption of activities, and, according to the numerous plans in the architects' offices, it will not be long before the building trades will start in earnest on their long-awaited period of reconstruction.

A structure in which it is understood large quantities of tile and terra cotta ornamentation will be used, is the proposed hotel that a company of which D. M. Linnard, lessee of the Palace and Fairmont Hotels in San Francisco, is the head, will erect in Los Angeles. The property covers forty acres of ground and besides the main building, which is to be rectangular in shape with extending wings and a center patio, there are to be thirty-six bungalows on the ground in connection with the hotel.

According to a report made by Fletcher Hamilton, state mineralogist, the clay industry in California increased to some extent during the actual period of the war, clay products being used in the form of pottery and pipe in the drainage and sanitary work in the cantonments. In 1917, he states that 166,298 tons of pottery clay were produced in California, having an actual value at the pits of \$154,602. This amount does not include the materials used in the manufacture of brick and tile. The total value of the clay products made from the above was \$2,106,460. During the same year the brick and building tile materials amounted to \$2,532,721. The report says that pottery clay is very widely distributed in California, having been taken at various times from thirty-three counties. In 1917 the largest producing counties were, in order: Riverside, Amador, Placer, Los Angeles, Alameda and Santa Clara. Los Angeles county leads in the manufacture of brick, followed by Alameda, Contra Costa and Riverside counties.

Georgia

Application for charter was filed on February 7 by the A. T. Small Brick Co., Macon, Ga., a concern to be capitalized at \$135,000, and to manufacture brick, terra cotta, roofing tile, and other clay products. The petition asks that the corporation be allowed to increase its capital to \$500,000. The incorporators are A. T. Small, C. C. Small, A. T. Small, Jr., and H. H. Smith.

Indiana

Members of the Summitville Commercial Club, of Summitville, Ind., at a meeting recently, voted to petition the county commissioners to construct a new brick road to pass thru the central part of the town. The proposed road, it is

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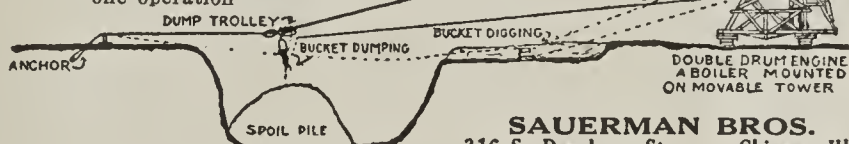
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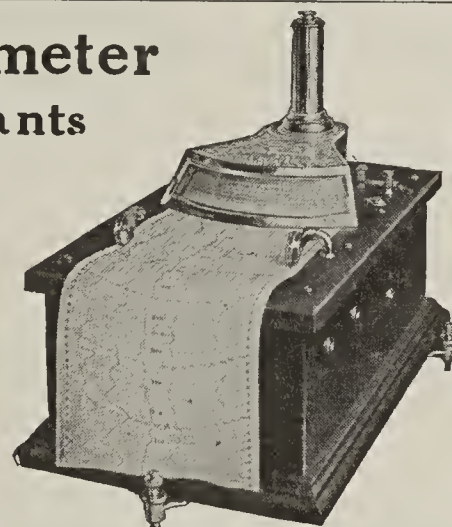
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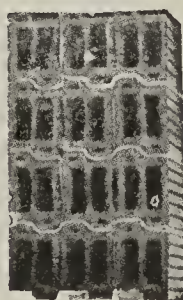
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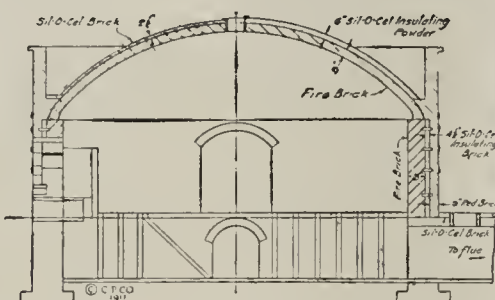
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Manufacturers of

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understood, is backed not only by the people of the town but also by all the residents of the township.

Workmen have been busy for the last few weeks repairing the damage to the drying room and power plant of the United States Encaustic Tile Co.'s plant, at Indianapolis, Ind., which resulted from a fire at the plant on January 10. W. F. Landers, secretary and treasurer of the concern, said the repairs probably will be finished and the plant in operation again within the next two weeks.

Brick manufacturers in the southern part of Indiana along the Ohio river are interested in the erection of the proposed port terminal at Evansville, which is now under consideration by Mayor Benjamin Bosse and the city administration. It is pointed out by the various manufacturing concerns in that territory that the tonnage now available on river traffic would pay the expense of running the terminal. A committee has been appointed to get statistics on freight handled by the river in former times, and to estimate the saving in rates to the merchants and manufacturers thru the river traffic.

Altho there is a large amount of work in prospect there is no actual evidence of any unusual activity in the building line in Indianapolis, Ind., at the present time. The lack of activity, according to those connected with the building trades, is due no doubt to the unsettled conditions of the time, the belief that the price of materials may come down a notch or two and the unsettled condition of the weather. Building permits, however, show a decided increase over the same period of last year and the brick and material interests are looking for a big resumption of building activity in the early spring.

One of the most interesting building projects announced in Indianapolis recently is that of the new fireproof headquarters building to be erected at New York and Adelaide streets for the Indianapolis Salvage Corps. No combustible material is to be used either in the construction or furnishings of the new building, according to the plans and specifications now in the hands of the architects. The structure will be a two-story affair and will be built of brick and stone. The interior of the side walls will be of glazed brick and the floors will be of cement. According to William Curran, superintendent of the corps, the new structure will be fireproof from cellar to attic and will be designed as a practical guide to interest future builders in the use of noninflammable material for construction purposes. When completed and furnished it will be open for public inspection and the details of construction and advantages to be obtained from the use of fireproof material will be explained to anyone. "The directors of the salvage corps have long been advocates of the use of fireproof material for future construction and feel that they, above all others, should be the ones to set the example," said Mr. Curran. When completed the building will be the only one of its kind in the state.

Kentucky

The Ohio Brick Sales Co., Newport, Ky., has been incorporated with a capital of \$10,000, the incorporators being Fred B. Bassman, Adam C. Haas and Aubrey Barbour.

Common brick are slightly off the line in Louisville, Ky., prices having been dropped about \$2.50 per thousand early this month. Some plants are quoting common brick at \$15 at plant, and about \$18 delivered on the job. Hollow tile is off about \$2 per ton, but drain tile and sewer prices are holding firmly.

M. J. Bannon, head of the P. Bannon Pipe Co., Louisville, Ky., is expected back shortly from a long business trip which took him to Birmingham, Charleston, Washington and Cleveland. The company is operating full time in its pipe works, and has fair orders ahead. The hollow tile and brick plant is running full, but has not as much business in sight as the pipe plant.

The plant of the Coral Ridge Clay Products Co., Louisville, Ky., which has been down for about six weeks, expects to start operations again about April 1, according to present plans of Manager James R. Howington, who reports that the demand is generally quiet just now, in spite of the most excellent weather ever experienced in the state. Louisville up to the middle of February had failed to develop a zero temperature, and there hasn't been a snow that lasted as much as six hours.

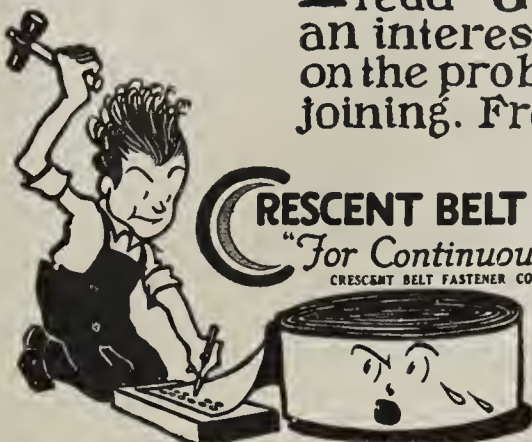
At the plants of the Louisville (Ky.) Fire Brick Works things are active on old business, both the Louisville and Grahn plants operating full time on back orders taken in 1918. However, very little new business is coming in, altho a few inquiries are being received from time to time. These inquiries are small for the most part. Sales Manager J. H. Bell reports that some price cutting is being done in the trade, but apparently it is not developing much actual business, and the price cutters will eventually be sorry.

At the annual meeting of the directors of the Louisville (Ky.) Fire Brick Works, recently held at the Louisville office, the following officers were named: President, K. B. Grahn; first vice-president and consulting engineer, Millard F. Cox; second vice-president and general superintendent, Louis Ernst; secretary-treasurer, A. L. Ernst; sales manager and purchasing agent, J. H. Bell. Mr. Cox succeeded C. A. Parker as first vice-president, the latter having recently resigned and sold his interests. Mr. Cox prior to coming with the company was assistant superintendent of machinery with the Louisville headquarters of the Louisville & Nashville R. R. Co., having been with that concern for a number of years.

Since the armistice was signed and coal regulations were lifted there has been a very great change in the general coal situation in Louisville, Ky., with the result that the brick manufacturer is quoting his own terms. Prior to peace practically all coal was shipped on the basis of sight draft to bill of lading, and coal was hard to obtain. Today the producers are making a hard fight for business, and good mine run coal can be had on an average basis of fifty cents per ton less than it was a few months past. Prices are uncertain, and generally weaker. There is a fair demand for lump coal, but all steam is draggy as industrial consumption is much lower, and industries were well stocked for the season prior to the signing of peace. The small operators are closed down, and the big mines are working two to three days a week at the most.

The outlook for manufacturers of tile silos is especially good in Kentucky this year, as the agriculturists are in better financial shape than ever before, and are making many improvements. W. C. Curry, chairman of the silo committee, of the Kentucky Retail Lumber Dealers' Association, in his annual report to that body last week, stated that 1919 was the most promising year that the silo manufacturer had ever faced, and that the country retailer who did not handle a silo line was overlooking his hand, and one mighty good bet. The tile silo has been a little slow in developing in this district, but it has so many advantages over

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HARDINGE Watch Clock

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In some instances, the increased efficiency thus obtained has been remarkable.

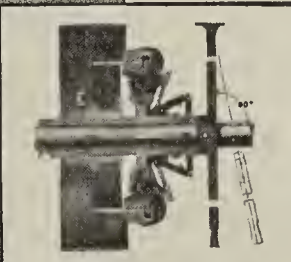
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Collar Oiling Bearings
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We make Sprockets, too—all sizes standard cast iron Sprockets, Plain and Clutch Hubs, Clutches, etc. All sizes Cut Tooth Sprockets, $\frac{3}{4}$ -in. pitch and larger, for motor drives, etc.—and many of the big boys from coast to coast won't use any other make.

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Attention Mr. Brickmaker

No matter what kiln you use or what kind of fuel you burn, I can show you how to improve the quality of your finished product, providing you get less than 95% firsts.

Let me prove it.

HARRY V. MASON

Pyrometric-Expert and Kiln Specialist.
Clays Tested. Trial Burns.

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PORTLAND, ORE.

concrete and wood that the difference in price should not be a determining factor this year, considering the fact that the farmer has the money, and doesn't have to use a make-shift, but is in position to secure the best and build for the future.

D. X. Murphy & Brother, Louisville, Ky., architects, have some excellent jobs on hand at the present time, which are expected to develop shortly, one being a large steel, brick and concrete addition to the nineteen-story Inter Southern Building. There is also some big work pending at the plant of the Louisville Water Co., and several brick men have been endeavoring to land some of this business. Joseph & Joseph, local architects, according to Oscar Joseph, have a lot of work pending having made sketches for several buildings, but to date have secured very little business that has actually developed. Mr. Joseph, in discussing the subject, stated that it was still too early to endeavor to figure out the possibilities. Louisville in a normal year will construct between \$5,000,000 and \$6,000,000 of new property. About \$3,000,000 is a fair estimate for this season, unless business develops more rapidly than expected.

The question of guaranteeing prices against decline is one that is now bobbing up in numerous industries in Louisville, Ky., and vicinity. The paint trade is divided on the subject, as are all other industries. The paper trade in some cases is making the guarantee. A few retail lumber dealers are guaranteeing prices to tobacco barn and other rural builders in order to influence early building. Some of the local brick and clay products manufacturers have been approached on the subject, and have refused to guarantee, stating that while prices are firm, and show no indication of a decline, they do not care to go into the insurance business at this stage of the game. As a rule the general clay products industry in this section is refusing to listen to the guarantee plan, altho some retail lumber dealers report that it has developed excellent business.

At a convention of the Kentucky Retail Lumber Dealers' Association, held in Louisville, February 11 and 12, plans were adopted whereby the board of directors will work out a general publicity and advertising campaign in Louisville as well as out in the state, and every member will use his influence in getting building publicity in an effort to show the consumer that prices may go higher but are not likely to go lower. It is planned to secure the cooperation of the general building supply industries, and various trade organizations interested in building and building materials, to aid in putting this publicity before the consumer in the right light. Much excellent work is pending, builders not having confidence in present markets, and feeling that the waiting policy is a good one. The brick men will be asked to cooperate in this movement to start activity in the early spring. Various forms of publicity will be worked out, including plate matter, and publicity that is devised by the Labor Department, U. S. A. There has also been discussion relative to employing a first class publicity agent, or newspaper man to handle the copy, and get it into the papers. It is claimed that in Louisville it will be an easy matter to secure the cooperation of the general industries, engineers, architects, and newspapers, as the building trades are very good advertisers.

The office of the Winchester (Mass.) Rock & Brick Co. was entered by burglars recently and ransacked. The office

had been entered with false keys and the safe opened by use of the combination, altho it had afterward been damaged to make it appear that it had been forced. So far as the company was able to learn only about \$36 in cash and \$5 in stamps was taken.

In spite of the fact that Massachusetts has taken the lead in the campaign to get building activities under way immediately, the brick market is still little affected. A few scattering orders for small lots are reported by dealers but as yet there has been no unusual demand or any continuity of orders which would indicate that building activities were striking their stride, according to reports from dealers.

Brickmakers in Worcester County, Mass., are watching the labor market closely before deciding whether to resume operations in the spring. The high wages demanded during the war time and the increased cost of cord wood for use in the kilns made brick manufacturing of doubtful profit and several of the yards in Worcester, East Brookfield and Three Rivers, Mass., have not been operated for the past two years. Labor is more plentiful and with prospects of cord wood getting back to a price somewhere near normal there is a feeling that brickmaking will be resumed in Worcester County with the coming of favorable weather.

Mississippi

The Currie-Finch Brick & Lumber Co., Jackson, Miss., recently organized with a capital of \$30,000, will soon commence the erection of a new plant for the manufacture of common brick. The initial works will be equipped for a daily production of about 50,000 brick, embracing all departments of operation, as mixing, molding, drying, etc. T. J. Currie is president.

Missouri

The Evans & Howard Fire Brick Co., St. Louis, Mo., has announced that as far as possible they will put discharged soldiers and sailors back to work in their plants. All of the men who enlisted while in their employ are getting their positions back and others who have been discharged and cannot find work are being given jobs. In this they are cooperating with the United States Employment Bureau.

Street paving by the city is now under full headway in St. Louis, Mo. Citizens have sent many letters of complaint about the condition of the streets to the newspapers, urging that this paving be rushed thru as quickly as possible. During war times the federal authorities prohibited street paving but now all restrictions have been removed. Vast areas are to be paved in this city. Contracts are being let every day.

Erection of a new federal building in St. Louis, Mo., which will be located on the corner of Fourth and Chestnut streets, is practically assured. The building will cost \$1,000,000. The authorization for the erection of the federal building here was contained in an act of Congress of March 4, 1912. The ground at Fourth and Chestnut was bought by the Government for \$300,000, but because of the agitation which followed about abolishing sub-treasuries of the United States, the construction of the building was delayed. Representative Dyer from this district appeared before the House Committee on Public Buildings and Grounds and asked that an amendment be made to the public buildings bill now being drawn up so as to allow the erection of the

Perforated Steel Screens Of Every Description

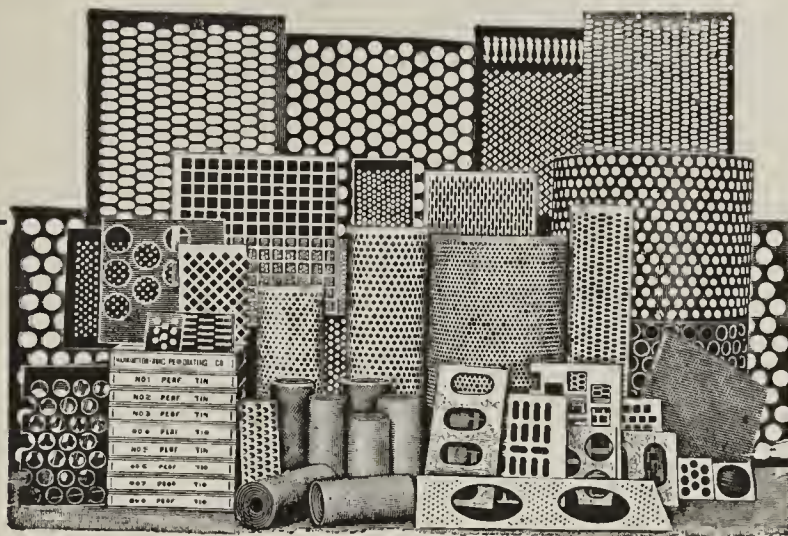
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Speed & No. 1 Ware

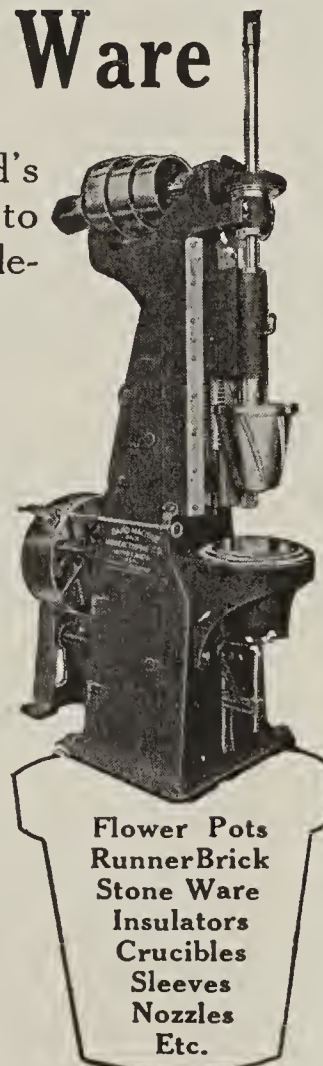
The popularity of Baird's Pottery Machines is due to their speed, simplicity of design, plus No. 1 ware.

The mould or head-piece of these machines always remains free from adhering clay. With the help of an ordinary workman, one of these machines will speed up production on easy selling ware, and increase your profits.

Send us a sample of your clay at once, and learn the possibilities of these machines. You will be surprised with the results. Write to-day to

Baird Machine & Mfg. Co.

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Flower Pots
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Stone Ware
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The Standard Brick Drier



Write for the catalog and a list of thoroughly satisfied users whose drying problem is the same as yours.

The Standard Dry Kiln Co.
1540 McCarty St., Indianapolis, Ind.

You can get a higher price for your brick if you guarantee it will be

Scum-Proof

And you can do this with perfect safety by using

R. H. Precipitated Carbonate of Barytes

It neutralizes the salt in your clay so that it cannot appear on the surface of the brick after it gets wet.

But don't accept a substitute—insist on R. H.—the dependable brand.

Write for circular and prices.

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We carry a complete line of high grade chemicals for the clay industry

new building here. The chairman of the committee assured Dyer that this would be done.

The initial step in a campaign to encourage building activity was launched recently at a joint luncheon of the St. Louis Real Estate Exchange, the Lumbermen's Exchange and the St. Louis Brick Manufacturers' Association. The meeting was attended by about 250 men with A. J. Boeckler presiding. The principal speakers were William A. Girdalin, president of the Real Estate Exchange, and Julius Siedel, representing the lumber industries. Girdalin declared that there has been no speculative building during the past year, with the result that values had been steady. He urged real estate men to cooperate with the lumber and brick men, stating that individually each faction was weak, but collectively they were strong. Representatives of all three industries were heartily in favor of the plan for united action.

The St. Louis Chamber of Commerce has announced that the charter for a \$5,000,000 Industrial Development Corporation has been drawn up and that final plans for its incorporation are being made. The purpose of the chamber in fostering this movement is to put St. Louis first in industry. According to Edgar Gengenbach, industrial director of the chamber, it is planned to build a mammoth terminal in St. Louis, patterned after the Bush Terminal in New York.

New Jersey

A plan has been developed to adjust the affairs of the Preston Silica Co., Bridgeton, N. J., which has been in financial difficulties. The creditors have accepted a proposition as worked out by the stockholders.

The plant of the National Fire Proofing Co., Keasbey, N. J., experienced a slight fire, originating in one of the dryers, on February 7, and which was extinguished before any material harm ensued. This plant, similar to others hereabouts, is running at about half of normal capacity.

In connection with a local proposition at Perth Amboy, N. J., for a memorial park to be established to commemorate the soldiers and sailors from this section who have been at the front, an interesting clay model has been developed embodying the complete idea of the park layout, and this has been placed on exhibition. The model is the work of Peter C. Olsen and Dr. Fritz Abegg.

The Wurdemann Co., Riverside Avenue, Lyndhurst, N. J., a well known brick concern engaging as well in other mason materials, will be operated by a receiver, Charles Jones, of Jone & Gleason, appointed by Vice-Chancellor Lane on application of a creditor. The company is said to have assets aggregating \$50,000 and liabilities of about \$40,000. A hearing will be held later in the month to decide if the receivership should be made permanent.

Things are quiet in the Raritan River section. The tile works and other ceramic plants in this section are operating at reduced capacities, and in decided contrast to the months past, plenty of labor is now available. The general attitude of different prominent concerns in this locality is optimistic in the extreme. The slack period is being employed in some cases for plant betterment to facilitate operation at maximum when the call for material is again evidenced.

In line with the proposed plans of the New Jersey Clay Workers' Association to arrange for the construction of a new ceramic building at Rutgers College, New

Brunswick, N. J., by Legislative appropriation, it is interesting to note that a movement has been started to raise a fund for the construction of a memorial hall on the College Campus. It is proposed to design this building for the use of undergraduates, with auditorium and rest rooms.

The Independent Brick Co., Trenton, N. J., is following out its intention of operating thruout the winter at its Bordentown plants, and there is no decrease in output in view at the present time. The company specializes in large orders, covering lots of 50,000 and 100,000 brick for a single enterprise. With its broad facilities, it was an important factor in the production of common brick for Government work in this and neighboring sections during the war, and now that the ban has been lifted, regular trade is being supplied at Camden and other points as under normal operations.

The price for common brick holds steady at \$18.50 for good hard common stock at Newark, N. J. The available supply at the present time is from the Hudson River district, the Raritan River and Hackensack sections being practically closed at the moment. The local demand is about all that might be expected, covering in bulk alteration and improvement work, and here and there a new dwelling or industrial plant. Hollow tile materials are in fair demand, while the call for face brick is low. Stocks are being maintained at a fairly good level, and with the present open and mild season there is no difficulty in securing additional supplies at short notice.

The situation at Hackensack, N. J., covering the brick manufacturing plants in this district, affords but slight interest worthy of any particular mention at this time. Active preparations have been made to inaugurate production with the advent of spring, so that in about six weeks or so, this section will again come to the front under regular operations. The general sentiment is that the majority of the yards will manufacture on a fairly good scale of production, at least, work will be inaugurated with this idea in mind, and if the demand for common brick is at a minimum, manufacturing, naturally, will be curtailed as the season advances. Everything points to resumption of good activities at the opportune time.

In discussing the real estate situation at Newark, N. J., Dr. C. F. Kraemer, president of the Real Estate Board, says, with regard to industrial operations, that a premium has been placed on plants for lease at the present time; there are few, if any, properties vacant which are considered suitable by the increasing number of applicants. There are negotiations for sites which would indicate new buildings, but the greatest demand in this field is for one or more industrial buildings suitable for small manufacture. It is held that the prospects for a resumption of building in the spring are good; architects and builders are said to have many leads which may develop into tangible construction. Under present conditions of the labor and material markets it is anticipated that construction will continue minimum.

Building conditions in different important centers in New Jersey have taken on a brighter aspect during the past fortnight. At least it can be so stated if the preparation of plans for proposed projects, together with slightly increased demand for building materials, can be accepted as an indication of the trend of affairs. This intimation of a revival in construction appears uniform in the different cities, such as Newark, Trenton, Paterson and neighboring districts, and brick interests at these

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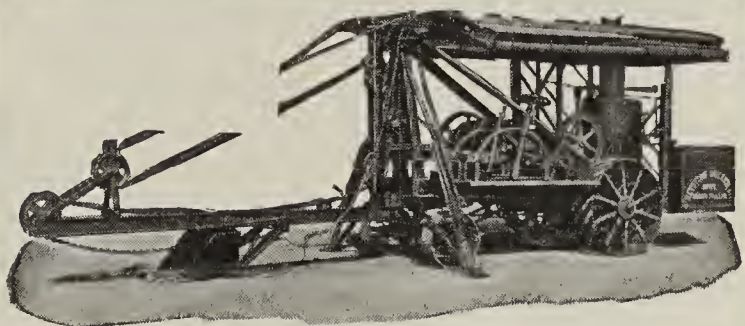
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from one to six feet deep?
Do you strip your shale pit?

The Keystone Excavator 10-Ton Traction

means a lot to the man who is operating under these conditions. Equipped with three different buckets, it is adaptable to a wonderful variety of work.

The flat bottom SKIMMER SCOOP (shown above) is designed expressly for shallow cutting. Mounted on a sixteen-foot boom, it has a horizontal crowding movement of eleven feet—hence can be used on cuts 6 inches in depth, loading 200 to 500 cubic yards per day and replacing 25 to 50 hand shovelers. Powerful and strong, it will dig shale or tough fire clay without blasting—anything but solid rock.

Operating in soft material, against a high bank, the half-yard DIPPER SCOOP is used.

For excavating below grade the DRAG DITCHING SCOOP is put on.

Its light weight (10 tons), long wheel base and large tread wheels make it an ideal traction, and its low cost makes it available to the plant of moderate capacity.

May we send catalog and list of Brick Makers who are using Keystone Excavators?

KEYSTONE DRILLER CO., Beaver Falls, Pa.

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STEAM SHOVELS



Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

THE BUCKEYE ROLLING MILL COMPANY
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Coal is the vital problem—yet

You WASTE It

Stop the waste now, by installing the

CANTON
ROCKING and DUMPING **GRATE**

It SAVES enough in most cases to pay for itself in the first few months' use.

It SAVES because there is no necessity of having the doors open except when charging fuel.

It SAVES because there is no waste or loss of heat when stoking.

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It SAVES because it keeps the steam pressure uniform.

It SAVES because that is the business for which it exists.

But—it can SAVE FOR YOU only if it is in use under YOUR boilers.

Write us for the names of satisfied users

THE CANTON GRATE CO.
1706 Woodland Ave., CANTON, OHIO

Southern Representative: W. B. McBurney, M. E.,
Efficiency Engineer, 829 Trust Co. of Ga. Bldg.,
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centers anticipate that the next few months will bring about far more satisfactory conditions than experienced during the past few months. Prices of common brick and mason materials of all kinds show no change of any moment; there is no tendency towards a lower level, even tho this is what prospective builders are looking for. Nor is there any change in the labor situation, and the exorbitant demands of workmen in certain quarters is a disquieting factor in the advancement and promotion of really worth while construction enterprises.

A number of interesting building projects to utilize brick and other burned clay products in construction are now being planned in different parts of New Jersey. At Newark, the American Oil & Supply Co. is having plans prepared for the construction of a new oil works on Wilson Avenue, to comprise a number of structures, including power house, with cost estimated at \$100,000. Extensions and alterations to cost about \$35,000 will be made in the three-story brick and hollow tile hotel at Park Avenue and East Second Street, Plainfield, N. J., known as the Queen City Hotel. At Trenton, the state officials are giving consideration to a plan for the erection of a state educational building to cost in the neighborhood of \$1,000,000; it is proposed to arrange this structure to house the State Library, State Museum and the administration of the Department of Public Instruction. The State House Commission at the present time is endeavoring to arrange an appropriation of \$250,000 for the construction of a memorial assembly hall adjoining the State House.

The project for a new hotel at Trenton, N.J., referred to in the last issue of *Brick and Clay Record*, is developing rapidly, and the support being accorded by the ceramic concerns is certainly worthy of particular mention. With one hearty accord, interests in this line have come to the support of the movement with the result that over \$350,000 has now been pledged for the erection of the proposed structure. President John A. Campbell, of the Trenton Potteries Co., has been directing the work in this branch, and in addition to the first subscription noted in the previous mention, others have been received from the Star Porcelain Works, the Monument Pottery Co., John Maddock & Sons, Jonathan Bartley Crucible Co., Sanitary Earthenware Specialty Co., Globe Porcelain Co., Lambertville Pottery Co. (Lambertville), Resolute Pottery Co., Sneyd Enamel Brick Co., Acme Sanitary Co., Golding Sons Co., Robertson Art Tile Co., and the Standard China Works. It is planned to locate the structure, which is estimated to cost in excess of \$500,000, at West State and Willow Streets, and negotiations for the site are now under way. The work will be carried out by the Hotel Realty Co.

New York

Construction work in northern New York cities, including Buffalo, Rochester and Syracuse, is devoted for the most part to industrial structures. For this purpose brick and other building materials are in fair demand and at price levels which show no tendency to fall. Among the important projects in this district is a five-story addition to the plant of the Eastman Kodak Co., Rochester, to cost about \$250,000.

Operations have been resumed by the American Enamelled Brick & Tile Co., at its South River, N. J., works for the production of high grade enameled brick, and

with a righting of conditions in the building industry, will develop a maximum capacity for this product. This plant has been devoted for months past to the manufacture of fire brick which were used in large quantities for enterprises associated with the war.

Buffalo, N. Y., will be a city of zones—industrial, commercial, residential—if the plans now being worked out by the city planning commission become a reality. The city will be divided into districts—factory districts, where only factories will be allowed, and residential districts where no plants may invade. The city planning commission, of which Captain George E. Norton, the city engineer, is chairman, is now working on the plans for separating the city into these zones.

As the result of proposals submitted February 5, for the sale of brick to the city for pavement repair purposes, it is expected a contract will be let to the Binghamton (N. Y.) Brick Co. and the Mack Brick Co., for furnishing the material. When the bids were opened it was found that of the red brick the Bessemer shale is priced at \$40 per thousand, the Corning shale \$37, the Binghamton Brick Co. brick \$32 and the Clysdale \$45. Of the buff brick, the Mack is priced at \$40.50 and the Toronto \$43.50. The proposals were referred to Commissioner of Public Works John A. Giles and action will be taken at the next meeting.

Doubt has been expressed whether the state will operate the Erie Canal thru Syracuse, N. Y., during the coming year, and investigations are now under way to determine how seriously the discontinuance of the canal will affect local industrial interests; the cost of bridge tenders, laborers, etc., represents quite a sum from the standpoint of the city government, an appropriation of \$14,000 having been made in 1918 to cover this work. Among the local concerns which has used the canal quite extensively is the Onondaga Pottery Co., both for shipments and receipt of materials.

The reorganization plan of the John B. Rose Co. and the Rose Brick Co., announced February 7, contemplates the formation of two companies—the Marlborough Sand & Gravel Corporation, which is to acquire the business and assets of the John B. Rose Co., and the Roseton Brick Corporation, which is to acquire the business and assets of the Rose Brick Co. Each company is to be organized under the laws of the state of New York, with a nominal capital stock represented by shares without par value and which shall be either issued or transferred to voting trustees who will issue to the creditor participating in the reorganization certificates of beneficial interest in proportion to their respective claims.

Prospects for a general strike of all the building trade industries this spring in Syracuse, N. Y., were increased during the past week when T. H. McHale, chairman of the arbitration board of the Syracuse Building Trades Employers' Association announced that there was no possible chance of the employers granting the wage increases demanded by the men. It is very probable that the formal statement of the arbitration board which is soon to meet and make a formal reply to the workers will include a suggestion to the labor leaders to withdraw or reconsider the demands for more money that impetus be given to the lagging construction work. A builders' section of the Chamber of Commerce, composed of representative business men of the city, is being advocated by the contractors and this and the wage question will be discussed at the board meeting.

Cyclone Drill

Pays for Itself First Four Months

"Our labor and fuel has been cut down about 60 %," writes a user of the Cyclone Drill, "while our powder bill has been reduced about 50 %."

In a recent issue we told you how the Cyclone had saved another user the cost of the drill three times a year for eleven years.

We have figures to back up these statements and can show you how this drill can effect an equally large saving for you.

Write for our Blast Hole Data Sheet, Form 102, and let us estimate on your drilling and shooting costs.

*Saves Labor
Saves Fuel
Saves Powder*

The Sanderson-Cyclone Drill Co.

Orrville, Ohio

New York Office

30 Church Street

Increase Sales with Good Looking Ware

Other industries have called in the aid of science to improve the quality and the appearance of their products.

ROLLIN'S BARIUM CARBONATE improves the appearance of clay products by eliminating scum, thereby giving you a more attractive and easier selling piece of ware.

Add ROLLIN'S at the pug mill, or in the dry pan, and it will render insoluble and harmless the scum-producing sulphates that are in your clay.

In sewer pipe clays it makes the salt glaze stick.

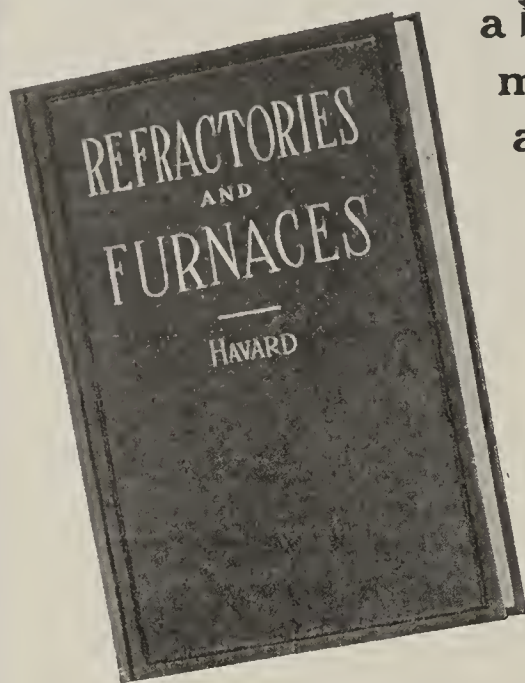
Well known concerns, such as U. S. Roofing Tile Co., Coral Ridge Clay Products Co., Sapulpa Pressed Brick Co., Coffeyville Vitrified Brick & Tile Co., and many others, are using it.

ROLLIN CHEMICAL CO.

(INC.)

Charleston, W. Va.

To the man who wants to know
—who must know— who is de-
termined that *he will know more*



about the
manufacture
and use of
refractories

**WE
OFFER
THIS
BOOK**

Havard's

Refractories and Furnaces

To briefly outline its contents—It clearly describes and illustrates the preparation of silicious refractories, refractory clays, and basic and neutral refractories.

It describes the **kind of refractories used**, and their application in the manufacture and metallurgy of iron, steel, copper, lead and silver.

It tells about the refractories used in Chemical and Electro-Metallurgical industries. And then it describes the manufacture of refractory hollow ware, heat measurement, mining, and finally the making and burning of common clay brick.

We do not believe that a more valuable book could be purchased, and we are enthused over this idea—it should be in every single clay products plant in the United States, whether you manufacture refractories or non-refractories, you cannot afford to be without it.

Send \$4.00 to

BRICK & CLAY RECORD

BOOK DEPARTMENT

610 Federal St.

Chicago, Ill.

The recovery of building activities seems destined to follow in all parts of Greater New York. Queens Borough is anticipating a good revival in construction operations; dwelling erection now under way at Corona, L. I., brings evidence of a continuance of building in this district, in fact, those locally situated maintain that a real "boom" can be expected in this section. The situation at Brooklyn is rapidly improving both as regards actual work under way, the filing of plans for new structures, and last, but not the least important, a brightening aspect as regards mortgage money, and which for some months past has been decidedly tight. The financial situation with respect to funds for building operations is very much better thruout the entire New York district. New school construction now planned for this vicinity during the coming spring and summer is estimated to cost about \$1,000,000.

In the Hudson River brick manufacturing district there is hardly any actual activity, but there is a spirit of optimism prevalent that conveys a sentiment of much more brightness in the outlook than for some time past. With the stocks now awaiting use at New York, there is no intention of quickening production until the exact drift of conditions is evidenced. Practically all green stacks have been burned and no shipments of any account are being made at the present time. Under normal conditions this section produces in the neighborhood of 1,400,000 brick in a season, but production on such a scale can hardly be anticipated during the coming season, unless the unexpected should happen. Some of the yards are now making ready for spring manufacturing, and it is believed that many plants will open up at the earliest consistent time. In line with this forthcoming production it is interesting to note that the demand for brick for export is likely to become a factor to be considered before many months; it is understood that the Jova Brick Works, Roseton, N. Y., and one or two of the other prominent brick companies have received inquiries covering brick for use in Belgium.

The old adage that "constant dropping wears away the stone" might well be applied to the building situation at New York and the Greater City environs. The constant talk about the necessity for construction work and the encouragement accorded in this direction, is seemingly having its effect in bringing about a renewed interest for this important branch of industry. Architects and engineers report quite a few projects in contemplation, with plans for many important structures now in actual process of development. During the middle of February contracts were awarded for new building, or reports made covering the letting of contracts at an early date to an amount well over \$6,000,000. The Hudson Investing Co. has arranged with the F. F. French Co., builders, for the erection of a twelve-story apartment house at Fifth Avenue and Seventy-second Street to cost about \$1,500,000. A new brick and terra cotta theater will be erected by the B. F. Keith's New York Theater Co., Inc., at Fordham Road and Valentine Avenue, to cost about \$400,000. A new twelve-story hospital will be constructed on Livingston Place and East Sixteenth Street by the G. Richard Davis Co., contractor, for the Beth Israel Hospital; the structure is estimated to cost in the neighborhood of \$1,000,000. Without question, the year 1919 has prospects of being a big one for realty.

The common brick market in New York, in line with the increased demand brought about thru the actual in-

auguration of building operations, is showing signs of greatly awakened interest. During the last weeks in February the allotments of brick delivered for buildings to be placed under way aggregated a total quantity far in excess of any months past since last fall. With this demand continuing, as now so earnestly hoped, available stocks from the Hudson River district now in yards and alongside wharf will be gradually absorbed, making way for the new production in the spring. Prices continue firm at \$15 per thousand wholesale, for good hard common, and in all likelihood this price will maintain thruout the remainder of the winter. An anticipated drop of a dollar or more has not come to pass, and the price, if anything, has assumed greater stability at the present level as the month progressed. The prevailing retail price is close to \$18 a thousand delivered on the job. While the demand for face brick of all kinds continues light, prices are strong and there is no tendency to a lower level; best grades in different colors are selling from \$37 to \$45 a thousand, delivered to the building site. Hollow tile is now selling for from \$64 to about \$150 per thousand feet, in accordance with sizes. The demand continues fair, with every evidence of becoming stronger at an early date.

Ohio

The Superior Brick Co., of Cleveland, Ohio, has filed papers with the secretary of state increasing its authorized capitalization from \$10,000 to \$400,000.

The new face brick company formed by E. F. Grand, which succeeded the Purcell-Grand Co., Cincinnati, Ohio, will be known as the E. F. Grand Brick Co. and will maintain the old quarters in the Mercantile Library Building.

Indications point to a very good spring for the building interests in Cincinnati, Ohio. A number of contracts have been let for various structures and bids are now being received for several large operations.

The final meeting of the creditors of the bankrupt Anders Shale Brick Co., Cincinnati, Ohio, has been held. The liabilities of the concern amount to \$27,700.34 and the assets realized total 17,807.77. The unsecured creditors received \$1,870.68, or 10 per cent. of their claims.

The Collingwood Brick Co., of Toledo, Ohio, has changed its name to the Collingwood Brick & Clay Co., and increased its capital stock from \$30,000 to \$200,000. Some improvements and additions to the plant will be made this spring, according to W. A. Howell, secretary and general manager of the company.

The common brick market in Ohio territory has been fairly active during the past fortnight. Buying for remodeling work is rather brisk and prices are strong all along the line. The Columbus price for sand-mold brick is about \$13 and for wire-cut brick about \$16. The available supply is not large and steps are being taken by the common brick factories to reopen their plants which have been idle for some time.

Approval of the proposed bill to give Ohio cities power to create building zones, as offered by the city planning commission of Cleveland, Ohio, has been given by the different building material and allied organizations of Cleveland, following approval by the Cleveland Chamber of Commerce. The bill is designed to give cities with city planning committees power to regulate the height and size of buildings and the purposes of their uses. In a general way, the land within the city limits would be districted, and the



That's the only caution necessary to sound to buyers who want to be sure they are getting genuine *Gandy* original stitched cotton duck power and conveyor belts.

All *Gandy* BELTING is red in color, and the bright green painted edge and trademark are plainly visible.

These two distinguishing marks are on every *Gandy* BELT. They're proof of our own faith in our product—our bond to you that we stand back of every inch of *Gandy* BELTING guaranteeing to the limit the material and workmanship, and providing engineering service that insures the very best results.

Gandy gets all the pull from the pulley.

Look for the green edge and *Gandy* trademark!

Yours for service,
"On-the Job" *Gandy*
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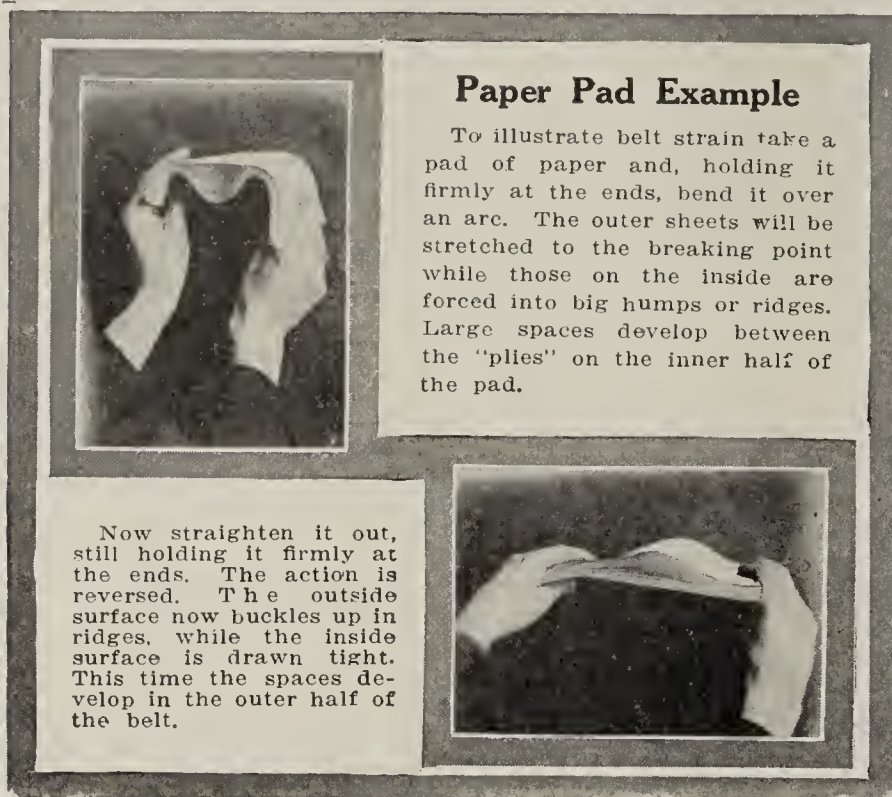
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732 W. Pratt Street Baltimore, Md.
New York Branch: 60 Warren Street



Stanley Belting

Solid Woven Cotton

Its special construction not only gives it greater strength and flexibility than is possessed by any other belt, but, most important of all, it enables it to ride over the smallest pulleys without buckling and tearing the inner and stretching the outer surface of the belt to the breaking point.



This is what one of our customers meant when he wrote, "We use the Stanley quite extensively where there is a large variation between the driver and the driven pulley sizes." And he adds, "We have put on several where practically all other belts had failed."

In Brick and Tile plants, for Transmission, Conveying, and for Elevating, Stanley solid woven cotton belting has no superior. Order a trial length today. Later when you need belting that delivers the power, you will specify Stanley because it is immune to belt strain, and because it stands up better than any other belt in Brick and Tile plants.

Information and prices on request. Write



**STANLEY
BELTING CORP.**
32-40 So. Clinton St.
Chicago Illinois

restrictions regulated according to rules of the committee and the city council.

A complete reorganization of the Ohio Highway Commission is contemplated in a bill introduced in the Ohio Legislature by Senator Busbey and Representative Fouts, chairmen of the highway committees in both houses. The bill would abolish the present non-salaried advisory board of the department and increase the salary of the commissioner from \$4,000 to \$6,500. It also provides for a chief engineer at \$5,000 salary and three assistants at \$4,000 each. Eleven district engineers are provided each at a salary of \$3,600. The bill seeks to add more than \$2,000,000 to the highway fund by restoring the half-mill levy which was cut to three-tenths in 1914. Many of the recommendations of the Ohio Road Congress, which met in Columbus in January, are embodied in the bill which has been referred to the committees on highway. It is believed that the bill will be enacted into a law without serious changes in the way of amendments.

Architects and contractors generally in Ohio are much more optimistic of the building outlook than was the case a month ago. It is true that the big meeting at Chicago had something to do with their change of attitude, but the most prominent factor was that prospective builders are now making more inquiries. As one of the prominent brick men sizes up the situation: "There will be considerable house building, both by the owner and by the builder for speculative purposes. I do not believe that there will be much general speculative building under present conditions. The situation, however, is much brighter than it was a month or six weeks ago and I look for a fairly good building season. At least we are preparing for a good demand for brick and we think that it will materialize in a few months at the latest."

The Barkwill-Farr Co., Cleveland, Ohio, in conjunction with its extensive plan of promoting the large use of common brick for varied purposes, has inaugurated a new system of costs that at a glance by the contractor or prospective builder enables the latter to ascertain just how much material is required. The system is included in a "comparative cost chart," on exhibition in the new show rooms of the company. It is the work of H. B. Dawson, efficiency expert of the company. For the present the system is confined to foundation work, different sizes and shapes of building having been included in the charts. The costs cover both hollow tile and concrete block construction, and details of cost are extended to labor. While the same types and sizes of construction can be maintained on the charts for comparative cost finding, space is left for the affixing of new labor and material costs as they might change. Cost of every item of material in the operation is included. As E. J. McGettigan, gifted sales manager of the company states, they are starting at the bottom and working up—that is, in a few weeks other charts, showing other forms of construction and costs will be added.

Pennsylvania

The Harbison-Walker Refractories Co., Pittsburgh, Pa., has declared its regular quarterly dividend of 1½ per cent. on its common stock, payable March 1 to stockholders of record of February 19.

One of the electrically-operated dredges of the Ochs & Frey Brick Co., Race Street, Allentown, Pa., used for clay mining work, was destroyed by fire on February 8

with loss estimated at close to \$5000. It is understood that the dredge will be replaced.

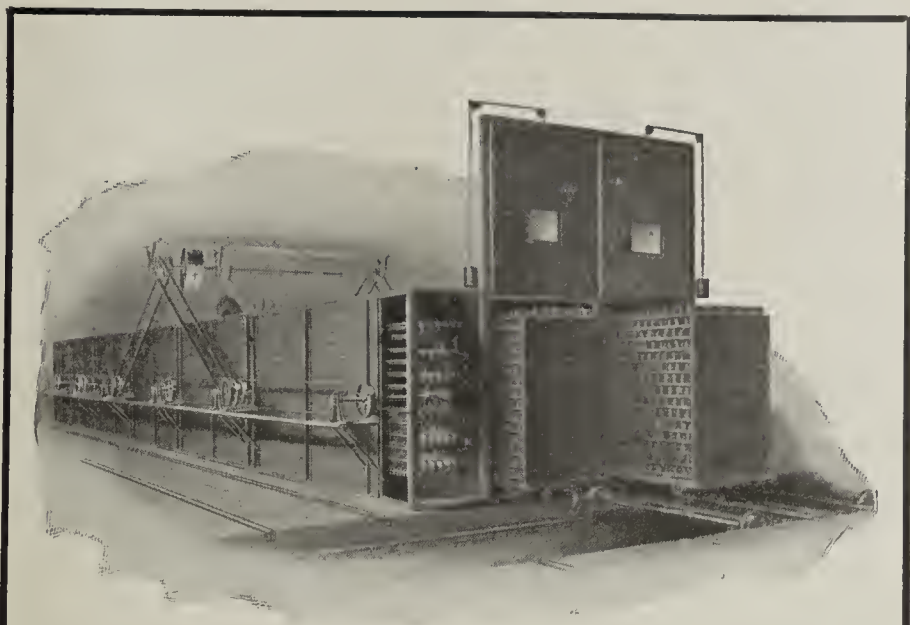
In connection with the new Lavino Refractories Co., Philadelphia, Pa., which is now building a new brick manufacturing plant near Womelsdorf, (Berks. County) Pa., it is interesting to note that this company is affiliated with E. J. Lavino & Co., Bullitt Building, Philadelphia, specializing in ferro alloy ores and manganese. This company operates blast furnaces at Lebanon, Sheriden and other points, and considerable of the plant production in fire brick will be used for relining and other work at these different plants.

There is little of interest to report as regards the brick market at Philadelphia, Pa. The bulk of demand is naturally for common brick, and this is bringing at retail close to \$20 per thousand, delivered on the job. Second-hand brick is also being used in reasonably good quantities for minor work where it will answer the purpose. Other burned clay products of all kinds are operating under minimum demand, with prices holding firm at current levels. This applies to face brick, hollow tile, and other specialties, and for which prices continue with great uniformity at high levels.

With its usual enterprise, the Master Builders Exchange, Philadelphia, Pa., has arranged a new and revised booklet setting forth its membership. This booklet has been printed in vest-pocket size, and designed for immediate and convenient reference. It is the intention to supplement this booklet frequently with new issues of similar makeup in order that an up-to-date list of membership will be available for members at all times. It is maintained by those in charge, and certainly justified, that the Exchange membership is of a character and proportion to warrant the issuance of new lists as necessitated.

An increased number of plans and calls for quotations have come to the office of O. W. Ketcham, Master Builders' Exchange, Philadelphia, Pa. recently, covering terra cotta, building brick, face brick, and other burned clay features of construction. This company, one of the largest operators in terra cotta and affiliated work in this section, is decidedly optimistic as to the present outlook, and of firm belief that the next few months will bring about, at least to a noticeable degree, the anticipated revival in construction enterprises. Plans which have found their way to this office embrace a number of important projects in different parts of the state which will represent a considerable investment when placed under way.

There is no change to report in the building field at Philadelphia, Pa.; during the past fortnight the demand for brick and other building materials has been decidedly slow. This city, which was so strong in Government work during the war, has received such a setback with the elimination of considerable Federal work, that it will probably be among the last of the eastern cities to fall into line with a good revival of construction enterprises. At the same time, every effort is being made by those prominent in the trade to encourage activities in this line, and with the coming of spring, it is expected that the building of apartments and dwellings will assume a strong impetus in a return to normal conditions in all branches of construction. During the month of January, the total building permits aggregated \$684,505, a decrease of over \$1,000,000 as compared with the corresponding month



Let Our Experimental Department Dry It

We maintain a large staff of engineers, and an experimental department fully equipped for scientific control of temperatures, humidities, air velocities, rate of drying, etc.

By the intelligent combination of methods and equipment, we are generally able to reduce the drying time from 50% to 90%, as compared with other drying systems. To do this we usually require much less floor space, reduce the number of dryer cars, get uniform results, save time, save labor, in handling materials, prevent loss of materials, insure absolute cleanliness and healthfulness of surroundings.

Proctor for **ALL CLAY PRODUCTS**
DRYERS

Proctor Dryers can be made practically automatic with temperatures, humidities and time of drying maintained absolutely constant. The capacity of the apparatus and the degree of drying are uniform and independent of variations in atmospheric conditions.

Describe your conditions fully, and ask for a Proctor Dryer Catalog for your clay products.

Philadelphia Textile Machinery Co.

SEVENTH STREET AND TABOR ROAD, PHILADELPHIA, PA.

PROVIDENCE, R. I. CHICAGO, ILL. CHARLOTTE, N. C.
Howard Building Hearst Building Realty Building
HAMILTON, ONT., CAN., W. J. Westaway, Sun Life Building

"The S S S Special" Automatic Soft Mud Brick Machine



The "S S S Special" is the ONLY Automatic Soft Mud Brick Machine. It is Brick Machine, Bumper, Dumper, and Sander, all combined in one Great Machine.

**It Saves Labor and
Improves Your Product**

The "S S S Special" means
Improvement Advancement Progress

The Arnold-Creager Co.
New London, Ohio

of last year. Of a total of 331 permits, 179 were for alteration and repair work in existing structures.

Utah

According to an announcement of A. J. Hall, president of the Utah Packing Corporation, of Ogden, Utah, the company has authorized him to spend \$200,000 in the erection of new factories in the Utah district. Among the buildings scheduled for immediate construction are a four-story brick building at the Watsatch plant; a four-story brick building at Riverdale; a frame structure at Royle; two buildings at West Weber and a two-story brick warehouse at Hooper.

Contracts amounting to nearly \$1,000,000, and which will cause the employment of nearly 1,000 men, will be let within a few weeks by the Millard County, Utah, district drainage board, according to an announcement made by Caldwell & Richards, consulting engineers. The irrigation project in Millard County will reclaim about 44,000 acres of good land just north and west of Delta. Excavating work for the canal will begin on March 15, if it is possible to have machines on the ground by that time. Manufacture of tile for the canal will begin in Salt Lake in the next few weeks, this work giving employment to a large number of men. From 300 to 400 men will be employed hauling the tile and many more will be employed in the manufacture.



POTTERY NOTES

A Resume of the Activities of
the Potters and Some Mention
of Their Plans for the Future

Pottery, Porcelain and Chinaware in China

Pottery and porcelain seem to have had their inception in China; at least, the Chinese claim the invention of the potter's wheel. China's exports of chinaware and porcelain amount to about 1,300,000 taels a year, the greater part being shipped from Kiukiang, which is the port for the Kingtehehen porcelain district. The porcelain industry at Kingtehehen, in Kiangsi, was established during the Han Dynasty, as the imperial pottery. It is now making cheap porcelain and recently began the imitation of foreign patterns with some success. It is stated that the potters intend to imitate some of the old patterns made during the Tang Dynasty. There are more than 100 furnaces at Kingtehehen, employing about 150,000 men. For information concerning old Chinese porcelain books on Chinese art and Chinese porcelains should be consulted.

The exports of pottery and earthenware amount to about 1,000,000 taels (\$1,000,000 gold) per year. Shanghai, Swatow, and Canton are the principal ports from which these goods are exported.—*Commerce Reports*.



New Finnish Pottery Co. Formed

Consul Thornwell Haynes, at Helsingfors, reports that a company for the manufacture and importation of faiences and porcelains has recently been organized in Helsingfors. It is the first of its kind in Finland. In addition to making

pottery, faïences, and porcelains its object is to establish thruout the country wholesale and retail houses, controlled by the organization. Scarcity and speculation have greatly increased the prices of such articles.



The annual meeting of the stockholders of the Mount Clemens (Mich.) Pottery Co. was held in the offices of the plant February 4, and the old board of directors as well as old officers of the company were reelected. The fact that the company paid approximately \$18,000 in dividends in 1918, the last dividend in December, representing a 6 per cent. semi-annual melon, has brought the shareholders to a keen realization that the industry is an important and profitable concern. The meeting was most optimistic. The plans for the contemplated enlargement, however, will be held in abeyance, these plans contemplating doubling the capacity of the plant.



Vast Building Program Under Way in Canada

Realizing that immigration follows fastest in the wake of good roads, Canada has made road building an important part in the Canadian readjustment and post-war development program and has outlined a program of road building of enormous size.

The provinces of Ontario and Quebec were spending millions of dollars on new roads in Northern Ontario and the back country of Quebec before the war, in an effort to keep ahead of the flood of immigration that pushed along in advance of the opening of the country. The western provinces were also carrying on extended work, which, of course, was cut short when war was declared. Now the prospect of an enormous influx of soldiers and emigrants from England, Europe and the United States has placed the road building program in the front rank of public construction work, approved by F. B. Carvell, Minister of Public Works, and J. A. Calder, Minister of Immigration.

Completion of the trans-continental highway extending from Moncton on the Atlantic to Vancouver on the Pacific, most of which has already been built, but needs to be linked together by stretches across the Rockies and in parts of the highlands of Ontario, is promised. A new tourist highway from Edmonton westward into the Rockies to Jasper Park and eventually clear thru the Prince Rupert, is announced from Edmonton, while roads into the north country of Manitoba, Saskatchewan and Alberta, are provided for in new legislation before the provincial parliaments.

The province of Manitoba alone will spend \$5,000,000 on road building, particularly in northern or New Manitoba, where extensive mining operations have preceded railroad construction.



Brick Making in Persia

The most costly mansions of Persia are built of sun-dried brick, and the flat roofs are generally of mud. In a hot, dry climate like this, these brick are durable, as is shown by the fact that some of the towers of Rhei are still standing after twelve centuries. Where great strength is required, the angles are fortified with burned brick. Burned brick are also used for foundations, chimneys, and Persian baths.

The burned brick used here are all produced locally,



TRADE **SAWYER** MARK
Registered

Stitched Canvas Belting

For thirty years "SAWYER" has been a swear-by-word among brick-men.

We recommend it for the particular service required in Brick and Clay Plants because of the satisfactory results it has always given on this class of work.

SAWYER spells SATISFACTION. It is backed by the world's largest rubber manufacturer.

United States Rubber Company
MECHANICAL GOODS DIVISION



KISSEL TRUCKS

Veterans of Transportation

THE first Kissel Truck built eleven years ago is still on the job every day making transportation history in 1919. This facility to stand hard usage during a long period is built into every Kissel Truck from the ground up—from headlights to tail-light—and is the result of eleven years of experience in motor truck designing and construction.

The Kissel-built engine is especially designed for motor truck purposes—with surplus power and strength to meet the rigid tests of unusual haulage and delivery requirements in the brick and clay industry without engine murmur or chassis protest.

This transportation certainty is the one big reason why you should see your nearest Kissel dealer immediately. Let him prove that in Kissel Trucks your transportation problems have been solved economically, efficiently and permanently.

Send for the latest illustrated Kissel
Truck Catalogue—free on request

KISSEL MOTOR CAR CO., Hartford, Wis., U. S. A.



and so far as is known none have ever been imported. The kilns, 25 in number, are all located near the southeastern entrance to the city, where there is a supply of light-red clay. It is estimated that the total annual output in a normal year is about 30,000,000. The brick are all hand-made, and are about 8 inches square and 2 inches thick. After being molded, the brick are placed in the sun to dry, after which they are stacked in the kiln, where the burning process lasts three days. They are then removed and sorted into three grades which sell per 1,000 at 100 krans, 60 krans and 30 krans respectively (the kran normally exchanges at \$0.0875; present rate, \$0.179). The price in krans has increased by 50 per cent. in the past four years. Laborers are paid 4 to 7 krans per day, according to the nature of the work.

On account of the economic situation, building operations are practically at a standstill, and not a single brick was burned in Teheran during the past year. The several kilns still have a supply of brick on hand, and owners say that none will be made until the demand justifies.

It is believed that when the economic condition of the country improves there will be a boom in building operations here. Brick kiln owners say they would be glad to install machinery if it can be done satisfactorily and profitably. They state it would be necessary to bring machinists from abroad as none are found here. Interest could no doubt be stimulated by sending catalogs and illustrations. The favorable position enjoyed by America in Persia would no doubt facilitate sales.—*Consul Ralph H. Bader, Teheran, in "Commerce Reports."*

* * *

New South Wales State Brick Works

The State Brick Works, owned and operated by the Government of New South Wales, under the department of public works, are located at Homebush, about ten miles from the city of Sydney. The plant is an extensive one, and modern thruout. The power drills, which are used in drilling the shale rock from which the brick are manufactured, are made in the United States.

The output of brick during the year 1916-17 was 29,720,259, showing a decrease of 8,417,125 brick manufactured and 9,732,611 brick sold, compared with the year 1915-16. The cost of manufacturing brick per thousand is \$7.75. The net profit for the year after providing interest on the capital, and profit for the sinking fund was \$17,869. In addition to this profit there was a further saving to the government of \$49,759 in the price of brick supplied for government buildings.

There were employed 130 workmen who received \$110,235 wages, in the year, and there were manufactured in 1916-17, 29,720,259 brick, of which 22,255,649 were used for construction work.—*Consul General J. I. Brittain, Sydney, Australia, in "Commerce Reports."*

* * *

Fiske Agency Office at Watontown

All agency orders of Fiske & Co., Inc., will hereafter be placed at Watontown, Pa., office instead of being passed thru the New York City office as formerly. Francis T. Owens is now in charge of the Watontown office.

The Ridgway (Pa.) Brick Co., which is one of the plants owned by Fiske & Co., Inc., will resume operations this month.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

The success of any new development in the industrial field depends almost entirely upon one thing—increased efficiency. However, increasing the efficiency of a machine or a man, as the case may be, must be done at an expense comparable with the results secured—a reasonably low first cost and maintenance, and a reasonably low power consumption. There are several ways of increasing the efficiency of a plant—by the use of labor-saving machines, more highly efficient machines, changes in process of manufacture, by proper routing of materials in course of production, and by increasing the ability of the man to do better work.

The truth of these statements has been universally recognized and while elaborate means at great expense have been used to increase the efficiency of labor employed in buildings by adding to the bodily comfort, almost nothing has been done to increase the efficiency of labor employed outside. In many cases, laborers employed outdoors are performing very active physical work which even in extreme cold weather will keep them fairly comfortable. But there are a great number of men employed outdoors, in more or less exposed positions, who, from the nature of their work, cannot secure sufficient exercise to maintain bodily comfort. Everyone has experienced, to a more or less degree, the disagreeable feeling due to cold feet.

The electric foot warmer has been developed to meet this particular need and problems, and has found many and various applications in the field. Among the most important are:

- (1) Watchmen at industrial plants.
- (2) Traffic policemen.
- (3) Gatemen at railway stations.
- (4) Motormen on street railway cars.
- (5) Doormen at hotels and clubs.
- (6) Sentrymen on guard duty at industrial plants, wharves, piers, bridges and cantonments.

To properly meet these requirements, a heater first of all, should be waterproof and should be designed to supply the necessary heat during moderately cold, cold and extreme cold weather. This necessitates a 3 heat control. A low temperature heater is essential since the surface must not at any time become too warm, as there is a possibility of chilblain resulting from the feet becoming overheated. The surface of the heater must be treaded to prevent a person from slipping when standing on it.

A foot warmer manufactured by the Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., meets all these requirements.

~ ~ ~

The Barber-Greene Co., Aurora, Ill., announces the strengthening of its organization as follows: W. A. Buell, sales engineer, formerly conveyor engineer of the Goodyear Tire & Rubber Co. H. W. Cudding, auditor formerly general auditor of the Lyon Metallic Mfg. Co.

~ ~ ~

The Goodyear Tire & Rubber Co., Akron, Ohio, will construct a six-story fireproof building at the southwest corner of Gilbert Avenue and Elsinore Place. The details have all been settled, and this will be the largest business structure outside of the downtown section, thus far planned. A Philadelphia firm of architects has the plans. It will have an artistic exterior. Other concerns, aside from the Goodyear company, will occupy part of the building.

Make the Dirt “Pay Dirt”

with

A Buckeye



Clay Digger

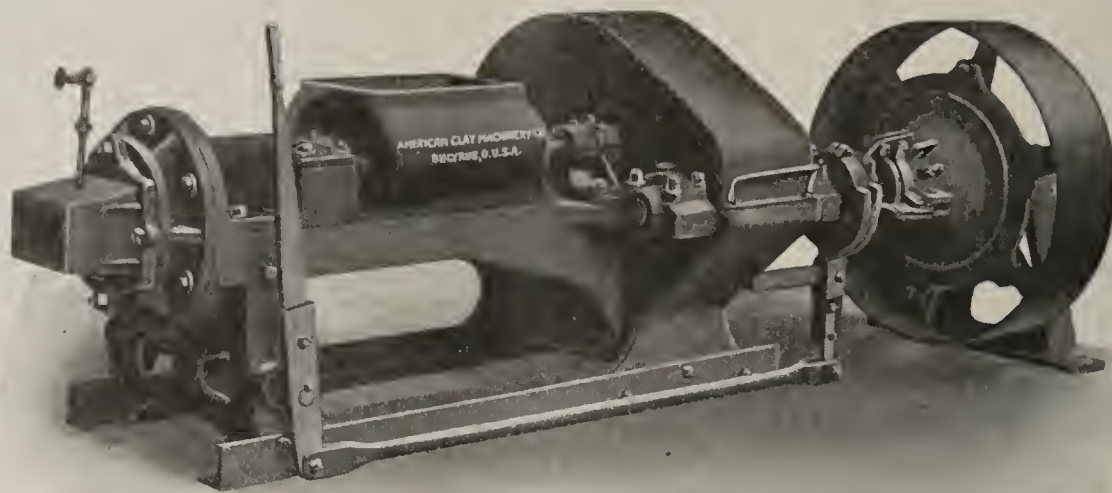
“Pay Dirt” on the clay plant is dirt that is chopped up fine at the pit, it is perfectly mixed, it is dug at a low cost per ton—and on some classes of plants that can only mean one thing (if it is to be accomplished)—the use of the Buckeye Traction Digging Machine.

On many clay plants it is already in use and is doing good work everywhere installed. It may fit your condition, and if so you can determine accurately with our catalog. Send for it.

The Buckeye Traction Ditcher Company

Findlay, Ohio

American No. 328 Auger Machine



American No. 328 Auger Machine

This is the smallest of our Auger Machines, but it has a wide range in production. It is a splendidly designed and a staunchly built machine.

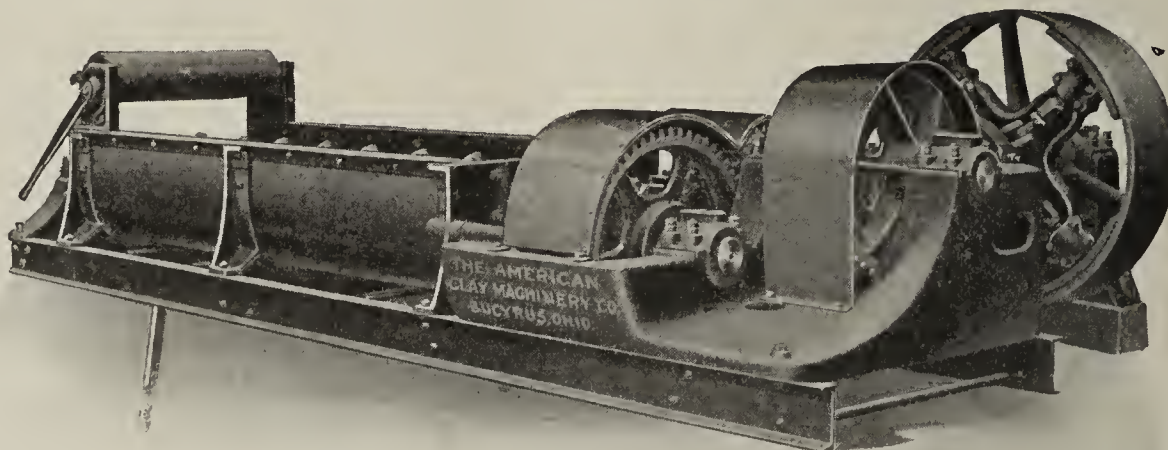
It is capable of producing a variety of ware at a speed governed principally by the quality of the clay and ability of the workmen to handle the output.

Let us send you a bulletin on this and other auger machinery. Free for the asking. We make every machine and appliance needed by the clayworkers.

American No. 247 Clay Feeder and Mixer

This machine serves a double purpose in preparing your clay. In addition to mixing it feeds the clay evenly and keeps the output steady.

It is a well built, carefully designed machine and is giving universal satisfaction where used. We have a bulletin on this and other Mixers, Feeders, Granulators and Pug Mills which we will be pleased to send on application.



American No. 248 Double Shaft Clay Feeder and Mixer

The American Clay Machinery Co.
Bucyrus, Ohio

BRICK *and* CLAY RECORD

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

United States Council of National Defense Says—

Buy only what you need—but buy it now.

The reemployment of returning soldiers, sailors and marines is the patriotic duty of the whole people.

Industry cannot absorb these men and take care of men already employed, unless there is a demand for industrial products.

All commerce rests finally upon the individual purchases of the people.

When people buy, business is good, when people cease buying, industry slackens.

The nation is in a period of transition from a war to a peace basis—to make this transition quickly, it is necessary that the people of the United States understand the necessity of *buying what they need now*.

Hoarding is dangerous, so is waste.

Take the middle course.

Buy now, but buy carefully.

U. S. Council of National Defense.

Newton D. Baker, Secretary of War,

Chairman

Josephus Daniels, Secretary of Navy

Franklin K. Lane, Secretary of Interior

David F. Houston, Secretary of Agriculture

William C. Redfield, Secretary of Commerce

William B. Wilson, Secretary of Labor

Grosvenor B. Clarkson,

Director of the Council.

Published under authority of the U. S. Council of National Defense, Washington.

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An Index of Coming Prosperity

MEN who, figuratively speaking, have their ears to the ground, have been realizing recently that we are entering into an era of evident prosperity. Retailers all over the country are beginning to feel a quickening demand for building materials in the form of increased inquiries and actual sales.

In this connection, Postmaster General Burleson declared on March 7, that increasing postal revenues, "one of the most accurate barometers of present business conditions," forecast a period of pronounced industrial prosperity.

"I concur in the opinion of the executive head of one of the greatest corporations of the world, who

prophesies large business prosperity ahead," Mr. Burleson said.

"During November there was a pronounced decline in postal revenues due to the prevalence of influenza and the signing of the armistice. Revenues in December showed a returning movement toward normal conditions, while during January and February the revenues greatly exceeded for those months the average annual increase during the last thirty years.

"Judged, therefore, by the reliable business barometer of the postal service, it is obvious that notwithstanding the fear of business depression expressed in some quarters, this country is on the threshold of a period of pronounced industrial prosperity."

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Protecting the Industry and Investors

THE CLAY PRODUCTS INDUSTRY has not been entirely free from wild-cat promotion schemes. In many cases some inexperienced person or parties have acquired in one way or another clay land, which, after having it tested with more or less accuracy—mostly less—have made it the basis and excuse for a stock company. Unscrupulous promoters have in this way taken the money of widows and orphans to build clay plants that under the condition of affairs could not possibly succeed.

Recently, clay products manufacturers in various branches of the industry have been talking about the formation of a bureau supported by the various branches of the industry for the purpose of safeguarding the common interests of the clay industry against such promotion schemes. All this is very fine and we heartily agree with it.

Some clay products manufacturers unfortunately and unwisely have placed a large share of the blame for such wild-cat schemes on the shoulders of clay machinery manufacturers. It is perfectly true that in the past some producers of clay machinery have been guilty of promoting and forwarding plants whose existence could not possibly be justified and who have actually demoralized the market in some localities thru their ignorance of manufacturing costs or their lack of sales ability. However, it is only fair to the large number of clay machinery manufacturers who are doing business at the present time to say that most of them realize only too well the inadvisability of starting up a plant where it is not needed and wanted, and are doing some good work in protecting both the clay products industry and investors against wild-cat promotion schemes.

Back Up the Brick and Tile Division of the A. C. S.

THE SUPERINTENDENT of a brick and tile plant in Pennsylvania has written the Editor stating, that, while he enjoyed the recent annual meeting of the American Ceramic Society held in Pittsburgh, February 3 to 5, he was bitterly disappointed in the lack of support which was accorded the newly formed brick and tile division.

This reader was not the only one who was troubled by the failure of common brick manufacturers and tile producers to take hold of the new division, of which there are seven, covering other branches of the industry. Upon investigation it was learned that manufacturers of the cruder forms of clay products are losing interest in the American Ceramic Society because of the highly technical nature of the papers and discussions, which for the most part have dealt with problems outside of the manufacture of brick and hollow tile. It was at once decided to remedy this condition, and it is hoped that the new division will meet the need for a discussion of problems in the manufacture of crude forms of clay products minus most of the technical verbiage.

A definite movement has been started on the part of those interested to make this division a real suc-

cess. At the first annual meeting of the Common Brick Manufacturers' Association of America, Warren W. Ittner of Belleville, Ill., made a very enthusiastic appeal for support of the brick and tile professional division. Mr. Ittner's message was reproduced in substance on page 323 of the February 25 issue of *Brick and Clay Record*. It is hoped that it will have some good effect upon the manufacturers of common brick.

"I do not think that there can be any question as to the great benefits which the American Ceramic Society, as a body, is conferring upon the country," writes our superintendent friend, "yet at the same time most people will also agree that we in the brick and tile business also have our problems which to us are vital and which if we had the opportunity of laying before men who are in the same line of business might find an easier solution."

We heartily agree with all which this reader has written and have promised him that we will push the new brick and tile division of the American Ceramic Society as much as we are able. Mr. Common Brick Manufacturer and Hollow Building Tile Producer, get behind this section and push with all your strength. Give it your moral and financial support. Marion W. Blair, of Thornton, W. Va., is chairman of the division.

Coming:

"OUR ASSOCIATION," by W. N. Cary, of Albany, N. Y. This paper, which was read at the recent annual meeting of the Common Brick Manufacturers' Association of America, is one of the best messages that has ever been written on the common brick situation and the possibilities of a live organization in that field.

"COST ACCOUNTING AS APPLIED TO THE BRICK BUSINESS," by H. W. Conway, of the Barkwill Farr Co., Cleveland. Mr. Conway is a practical brick man and has given considerable thought to this most important subject. This is a paper of great value.

"POSSIBILITIES IN ADVERTISING," another paper read before the Common Brick Manufacturers' Association of America convention.

"COOPERATION IN INSURANCE," by Henry R. Corbett, Fellow of the American Institute of Actuaries.

"PRODUCTION"—it's a big word and is affected by numerous factors—the author of this article shows the importance of labor personnel, equipment and technical direction in clay plant production, by G. G. Lawson, Northwestern Terra Cotta Co., Chicago.

OPEN PRICE PLAN

ENDORSED *by* NEBRASKANS

*Nebraska Brick & Tile Association Celebrates Year of Great Activity
at Fourth Annual Convention Held in Lincoln on March 4 and 5*

AS A FITTING CLOSE to a year of remarkable accomplishments, the members of the Nebraska Brick & Tile Association met at the Lincoln Hotel, Lincoln, Neb., on March 4 and 5 and held a most interesting and successful convention—the fourth annual meeting of that organization. Valuable talks on a number of subjects of immense interest to all clay men as well as a review of the activities of the association during the past year were the features of the meeting.

After approving the minutes of the last annual meeting without reading, the convention heard the oral report made by President C. B. Hutton, in which he said in part:

PRESIDENT'S REPORT

"It is a pleasure for me to point out the fact that during the past year the association has fully proved its value. Last spring, like a clap of thunder out of a clear sky, came an order from the Federal Fuel Administration restricting all plants to 50 per cent. of their normal fuel supply. With machinery at hand all ready to throw on the switch, a special meeting was called at Hastings where the situation was considered from all sides.

"By unanimous action, a special committee was appointed to make a close survey of conditions among the plants in this state and of the conditions prevailing at the mines, believing they were such as to enable us to convince the Fuel Administration that our plants should be permitted to run full capacity.

"The survey proved, first, that a majority of plants were using screenings for burning and those not using screenings, could use them if necessary.

"It further developed the fact that if the mines were not permitted to dispose of their screenings it would not only clog up around the mouth of the mine and make it difficult to operate to their full capacity, but that inability to sell the screenings would compel them to raise the price of domestic coal.

"With these facts in our possession the matter was taken up thru proper channels, the final outcome of which was an order permitting plants to purchase their full fuel requirements.

"Building restrictions then in effect presented a still further problem. Some time prior to the war the association had inaugurated an advertising campaign having for its purpose, an increase in the use of brick and tile in farm buildings. Fortunately for Nebraska plants, members of the association, this advertising had created a considerable demand that made up in some measure for the loss of sales thru building restrictions so that on the whole association members came thru in good shape."

In closing, Mr. Hutton called attention to the fact that all were deeply grateful to the Hon. John L. Kennedy, Federal Fuel Administrator for Nebraska, "for the active interest taken in our problems and for the relief actually

secured thru his untiring efforts and that we could do no less than give him a hearty vote of thanks."

TREASURER'S REPORT ENCOURAGING

Frank I. Ringer, the live and energetic secretary-treasurer of the association, followed with a report which was adopted and ordered spread upon the minutes. The chief points made in his report were: "The past year has been a busy one. With the advent of last spring, fuel and building restrictions led many to believe that material business would quiet down and that the association would not be very active, but the contrary has been true as will be noted by reference to a list presented in the treasurer's report."

Mr. Ringer also called attention to the unusual efforts put forth by John W. Turner to get a big attendance at this meeting. Mr. Turner wrote personal letters to a number of non-members cordially inviting them to be present at this meeting.

Because of the fact that it indicates the volume of activity of this association, we print the report of the treasurer which should prove of interest to everyone.

Exhibit "A"

Balance 1-1-18		\$1,834.47
Receipts:		
Membership dues	\$ 42.00	
Membership fees	11.87	
Assessments	1,704.70	
War work—non-members	112.80	1,871.37
		<hr/>
		\$3,705.84
Disbursements:		
Advertising	\$913.60	
Secretary's salary	603.00	
War service (Group 16)	301.66	
Drawings and blue prints.....	138.00	
State fair exhibit.....	85.14	
Convention expense	65.86	
Office expense, ptg., postage.....	48.74	
Traveling expense	29.81	
General expense	21.10	
Correction of error.....	3.41	\$2,210.32
		<hr/>
Balance 12-31-18		\$1,495.52

A brief outline of the contents, dates and size of the seventeen bulletins sent to the membership during the past year was then presented.

ADVERTISING IS BRINGING RETURNS

Mr. A. H. Farrens, chairman of the publicity committee, reported in part as follows: "Assuming that all are more or less familiar with the advertising campaign, I want to call your attention to some of the needs that have arisen out of that advertising.

"In our first advertising we offered to send blue prints

of such buildings as persons might be interested in, making it plain that we would send such plans as were published by the agricultural engineering department of the University of Nebraska.

"Last year we spent \$138 for blue prints and drawings, but find that these are not always entirely satisfactory, because they do not give much of an idea, usually, or more than one elevation.

"We have therefore felt the need of a good plan book that would give much more information and with that idea in mind have already prepared some free hand drawings from which cuts will be made for use in our proposed new catalog, which is likely to cost us several hundred dollars, but will, in my judgment, be well worth the cost.

"During the year we have received a large number of inquiries as a result of our advertising, copies of all of which have been passed along to the members as soon after their receipt as possible.

"The cut used in the last issue of the 'Nebraska Farmer' is owned by the association and it occurred to me that we might get out a double page letterhead with this cut printed on the inside, each concern to have his own individual letterhead on the outside.

"I want to call your attention to the big nut cracker used in connection with our state fair exhibit to show the strength of hollow tile. This is owned by the association with the exception of the two large I-beams, which have been rented. This exhibit has aroused much interest and, I think, has been the means of bringing more favorable attention to hollow tile."

LIVE SESSION HELD IN AFTERNOON

At the afternoon session, J. W. Turner, of the Seward (Neb.) Brick Works, in opening the round table discussion on plant operation, called attention to the fact that it was necessary to begin out in the clay pit, which in his opinion, was too often given scant consideration by the plant owner.

Mr. Turner handled the discussion in a very able manner, taking up each step in turn until the product was ready for delivery to the job. That there was much interest in the discussion was evidenced by the fact that foremen, superintendents and owners alike took an active part in it.

An interesting paper on the "Control of Heat in Burning" was presented by J. W. Lazear, of the Brown Instrument Co., Philadelphia, Pa. He called attention to the fact that many plants depended upon the eye of the burner to determine when the heat was right, but owing to the fact that dark days and bright days make the heat look different, it is impossible for any man to judge accurately. He also pointed out that by the use of a pyrometer a continuous record of the heat could be maintained, which, in his judgment, would have a big moral influence in keeping the burner on the job all the time.

Prof. R. K. Hursh, of the department of ceramic engineering, University of Illinois, gave a talk on brick and tile drying processes in a well analyzed way and held the close attention of his audience for a little over one hour. He first took up the elements of drying. The flow of moisture to the surface of the piece in drying presented many difficult problems which were explained, together with a remedy for many of them. Uniformity of mixture or the lack of it show in both the drying and burning. The need of uniform mixtures necessitates more attention to mining. A good insurance of a proper mixture is the use of a feeder for dry ground clay and an even supply of moisture.

At four-thirty, the convention adjourned so that each one might get some fresh air and accumulate a big appetite for the banquet scheduled for six-thirty. The banquet at which Secretary Ringer acted as toastmaster, proved to be a big success. T. A. Randall, secretary of the N. B. M. A., and Major L. W. Chase furnished the speeches for the evening.

CONVENTION ADOPTS RESOLUTION

At the session held the next morning, the following resolution was unanimously adopted:

RESOLVED, by the Nebraska Brick & Tile Association, that it is in favor of a mileage scale of rates as applied to the movement of brick and tile carloads in intra-state traffic in Nebraska, provided the scale be upon a basis which will be fair to shipper and carrier alike.

"Selling Costs—Where They Begin and End"—was the subject of the first discussion of the round table talks which proved of such great value to those who were fortunate enough to be present to hear them. The above topic was presented by A. H. Farrens, of the Western Brick & Supply Co., Lincoln, Neb. In outlining the subject for discussion, Mr. Farrens suggested that we may not always figure everything in, that we should, in computing selling costs. In his judgment, as was brought out in some of the previous discussions, they began in the clay pit. He said: "I think most of us find that our product is sold during about eight months of the year and that the balance of the year, four months, is devoted to getting the plant in shape and making selling plans for the next campaign, during most of which time expense is just overhead that must be figured in somewhere in costs and part of it belongs in the selling cost.

"I wonder how many of us realize that rough treatment of brick adds to the selling expense. After brick or tile have been delivered on the job we have had complaints that made it necessary for us to sell the job a second and sometimes even a third time, all of which would be unnecessary if more care were used in handling to avoid chipping. We all recognize the fact that brick with the edges slightly chipped is just as good in the wall, but it does not look quite so good to the buyer."

Many other important points were called to attention of the members in Mr. Farren's talk.

B. W. Ballou, of Buffville, Kansas, former chairman of the War Service Committee on Brick, district No. 16, was given a warm greeting as he arose to speak. The salient features of Mr. Ballou's talk were: "Before taking up the discussion 'Open Price Exchange,' I wish to call attention to some of the conditions before and during the war. When war restrictions came upon us we found little in the way of a cohesive national organization with the result that all suffered.

"When the Government needed 60,000,000 brick no one knew just where they could be found with the result that other material was used. The big lesson in this is that we should always maintain a real live pulsating organization that we may be prepared for what happens.

"In taking up the discussion of the 'Open Price Exchange,' I want to call your attention to the fact that the American Face Brick Association have such a plan in their organization. It worked in a most satisfactory way and I intend to tell you of some of its advantages in the hope that the Nebraska association will adopt a similar plan.

THE OPEN PRICE SYSTEM

"The open price plan simply completes your organization. It does not pretend to fix prices. It violates no law. It simply means laying the cards on the table face

up. In other words it is a plain statement of prices for which the product is selling at different points. Under the plan adopted in our association, whenever a plant gets out new prices, they must be sent to the secretary at once and no one is required to explain the why of the new prices. The reports call for the number of brick manufactured, the number shipped, orders filled and stock on hand.

"From this information which is sent to all members, it is easy to determine where there is surplus stock, which oftentimes explains why certain prices are made. In other words, it gives a clear index to conditions in all parts of the trade territory."

The offer of Mr. Ballou to send, for the information of the membership, copies of the blanks used by them was accepted with thanks and he was given an enthusiastic vote of thanks for the able manner in which he had handled the discussion.

On motion, the convention went on record in favor of the open price plan and agreed to adopt it immediately, and that it be made operative at the earliest possible date

NEWLY ELECTED OFFICERS

In the afternoon session, the report of the nominating committee was made and unanimously adopted. The following are the officers of the association for the ensuing year: President, John W. Turner, Seward; vice-president

Hugo Polenske, Hastings; secretary-treasurer, Frank I. Ringer, Lincoln. The executive committee includes J. W. Turner, Seward; Hugo Polenske, Hastings; A. H. Farrants, Lincoln; O. R. Martin, Lincoln, and Fred Smith, Omaha.

The careful attention of everyone present was held by O. R. Martin, manager of brick plants at Lincoln, Doniphan and Aurora, when he took up the discussion of "Plant Management" in a definite and detailed way.

As a matter of general information it may be explained that prior to his connection with the brick business, Mr. Martin had been at the head of the accounting department of the school of commerce of the University of Nebraska and has simply made a practical application to the brick business of the things he has been teaching in the school. It may be further stated that Mr. Martin is an authority on accounting in this section of the country so that what he had to say was listened to with unusual interest. It would be difficult to give the discussion in detail, but suffice it to say, that at the conclusion of his talk there were a number of plant managers in the room that were anxious to install the same system in their plants.

A talk on the manager's relation to the accounting department by J. R. Roberts, president of the Roberts Sanitary Dairy Co., followed by a lively discussion, closed one of the most valuable conventions ever held by this organization.



FREIGHT RATES *and* ADVERTISING *the* BIG SUBJECT *at* COMING CONVENTION *of* BUILDING TILE MAKERS

AN EVENT of no little importance will take place in clay circles on March 19 and 20, when the Hollow Building Tile Association meets in annual session in the Red Room of the Hotel La Salle, Chicago.

Owing to the fact that war work and the activities of the war service committee held the stage during the entire year of 1918 in the building tile industry, no annual meeting took place. At this time last year, manufacturers were more concerned in the amount of coal that they would be permitted to burn and in the number of tons of building tile they could sell the government for war work than in publicity, promotion, open price, engineering, field or any other kind of work.

This year the situation is different. The emergency is passed and the association is now able to devote its entire attention to peace-time activities and problems.

At the morning session of the convention on March 19, M. F. Gallagher, one of the attorneys representing the common and face brick, as well as the hollow building tile manufacturers, will speak on "Your Increased Freight Rates—What Are You Going To Do About It?" The afternoon of this day will be devoted almost entirely to publicity and promotion, the following speakers being on the program: W. D. James, general manager, James Manufacturing Co., Fort Atkinson, Wis., "Your Billion Dollar Farm Market;" C. L. Rorick, "The Billion Dollar Farm Market But One-sixth of Our Field—It Is Yours For the Asking," and W. H. Rankin, president, W. H. Rankin Advertising Agency, Chicago, "The Romance In Hollow Tile Advertising."

On March 20 there will be a business session in the

morning and in the afternoon all unfinished business will be handled.

All hollow building tile manufacturers, whether members of the association or not, are urged to be present and attend the convention and to take away some of the inspiration that will be dealt out with a generous hand.



Pioneer Sewer Pipe Manufacturer Dies

It is with deep sympathy that we mention the death of Andrew Robinson which occurred a short time ago. Mr. Robinson was a pioneer of the clay industry in the Uhrichsville, Ohio, district where he was connected with clay manufacturing plants for a great number of years. About thirty-three years ago he formed the Diamond Fire Clay Co., at Uhrichsville, and later helped organize the Uhrichsville Fire Clay Co., acting as superintendent for this concern for fourteen years. He afterward became superintendent of the Royal plant at Midvale, of the Robinson Clay Product Co. In 1902, he and C. L. Graves organized the Robinson & Graves Sewer Pipe Co. Several years later, the partnership was dissolved and Mr. Robinson and his sons, Alexander and Andrew, jr., took control of the holdings. The company is now known as the Robinson & Sons Sewer Pipe Co., with plant located north of Uhrichsville. At the time of his death he was president of the organization and was sixty years old.

Mr. Robinson first located at Toronto, where he remained for two years engaged in sewer pipe manufacture. He then joined with the late J. M. Cooper and started sewer pipe manufacture in the Uhrichsville district.

A FEW REASONS WHY *the* AMERICAN FACE BRICK ASSOCIATION SHOULD START *at* ONCE *a* PUBLICITY CAMPAIGN

By J. M. Adams

*of the Ironclay Brick Co., Columbus, Ohio. Read before the Seventh Annual Meeting
of The American Face Brick Association, Chicago, February 10—12, 1919*

NO PRODUCT SELLS ITSELF, unless it is necessary to life and the demand equals or excels the supply.

The capacity of the face brick plants of the country is from twenty-five to forty per cent. greater than the normal demand, consequently the excess supply has for many years kept the selling price of brick at little above the cost of production. Hence one of two things must be done by the face brick industry if it is to realize a just return on the capital invested; either increase the demand for face brick or limit the output. The logical and sensible thing to do is to increase the demand by the judicious exploiting of the value of face brick as a building material.

PUBLIC DOES NOT KNOW BRICK

The face brick industry has too long been taking it for granted that the general public understands and fully appreciates the value of brick as a building material. I desire to say that the general public has no such understanding, no such appreciation, and that many of those who do have such an appreciation have been led to believe that the use of brick is prohibitive on account of high cost. The voice of the carpenter-contractor is heard everywhere preaching in favor of wood construction and a job for himself as both architect and builder.

There are thousands of small towns in this country in which the carpenter-contractor is the chief oracle in all matters pertaining to building. In fact in many of these towns there is not a single bricklayer to champion the cause of brick construction. In Ohio alone there are more than three hundred towns of more than one thousand population.

These carpenter-contractors are not to be too severely criticized for advocating wood construction. What has the brick industry ever done to educate them or the general public as to the worth and the superiority of brick construction? Practically nothing.

Not only does the carpenter-contractor hold sway in the small town but he is the chief mentor for all the country district surrounding.

If the farmer wants to build a new house he consults first with the carpenter-contractor in his home town. He knows nothing about the superiority of a brick house over a frame house, and he has the idea that is prevalent everywhere that the cost of a brick house is prohibitive, consequently the face brick industry is leaving a very great field for business absolutely uncultivated.

ADVERTISING—THE REMEDY

Now what should be done to meet this situation? First, this association should begin at once a comprehensive

scheme of general advertising including the big weeklies and monthlies and widely circulated papers that go into both city and country, because we must not neglect the country. The farmers are growing rich and many of them are now planning to build good homes for themselves.

In this advertising matter we must set forth clearly and conclusively the facts that go to prove that brick construction is superior to any other and that the cost is but slightly greater than the cost of good frame construction.

By general advertising I mean a consistent course of advertising not for one month or two months, but for a period of not less than three years, because it is admitted by every advertiser that spasmodic advertising does not pay. It is the constant dripping of water that wears away the stone;



Not Only Does the Carpenter-Contractor Hold Sway in the Small Town But He is the Chief Mentor for All the Country District Surrounding.

so it will be in the constant reiterating in the press of the country that brick is a superior building material that will wear away the prejudice of the average man.

PUBLICITY PIONEERS

There have been a few courageous firms in the face brick industry that have had the foresight to see the value of advertising and have advertised in a general way for the last two or three years, but they know, and every other manufacturer knows that they are paying not only for their own advertising, but they are paying to advertise their competitor's business.

Referring to the plans of this Association for general publicity, there will be some manufacturers who will refuse to join the rest of us in a general advertising campaign. There have always been slackers. There were slackers in our recent war, who were not willing to bear their share of the burden; so it will be in this campaign. There will be manufacturers who will be willing to accept the profits accruing to the general trade, but who will refuse to help pay the cost. We cannot stop because of this. If progress should stop for absolute unanimity of action by all there would never be any progress because there are always those who want to profit by the labor of others; they are parasites on the general public. What this Association must do is to go along without them.

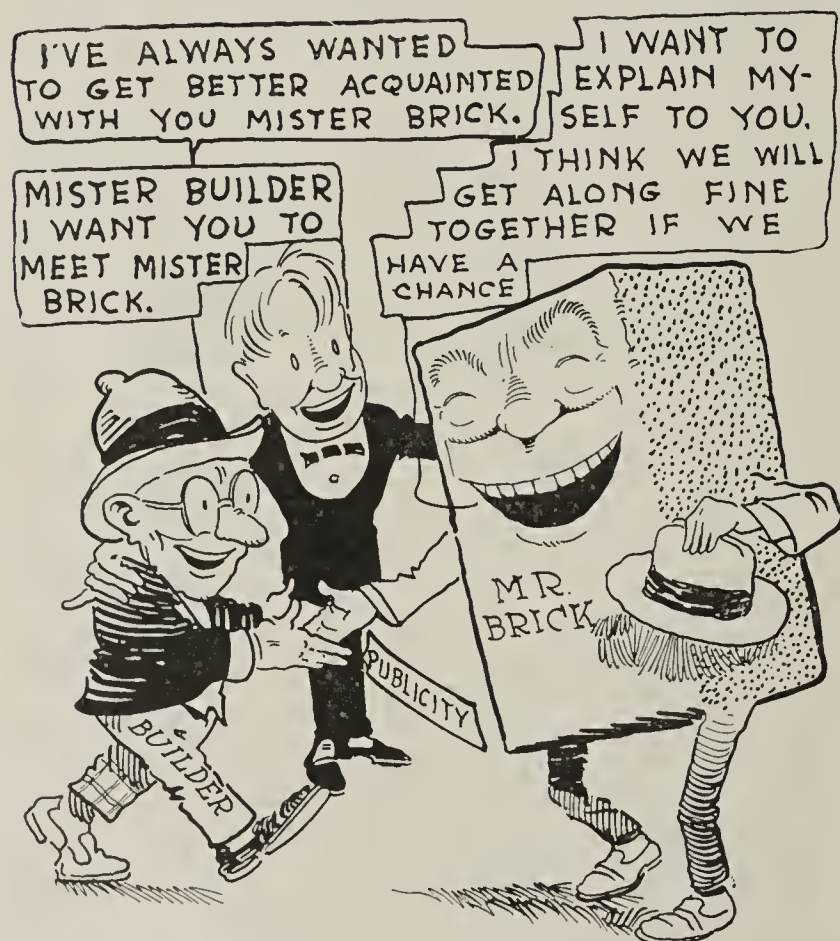
EASY TO SELL ADVERTISED ARTICLE

I am not going to stop to argue the immense value of general publicity. Everyone knows how much easier it is to sell a widely advertised commodity than it is to sell an unknown commodity.

Mention *soap* and the first thing that appears above memory's horizon is "*ivory*."

Mention *automobiles* and the names of a score of motor cars flash thru our memory.

Mention *baking powder* and the word "*royal*" appears at once.



There Are Now Thousands of Buildings Going Up Where Brick Has Never Been Considered. Let Us Make Our Publicity Campaign So Complete That There Will Not Be a Building Go Up Anywhere Without Brick Having Had a Hearing.

Mention breakfast foods, and instantly we think of Ralston's "*Cream of Wheat*" and "*Kellogg's Corn Flakes*."

The thought of building comes to the average man;

he thinks of "*yellow pine*," "*white pine*," "*stucco*," "*cement block*" and "*brick*," but brick is the last to appear in the thought of the average man, not because he does not know that there are brick houses, but because he has been educated to the fact that they are so expensive he cannot afford to use them.

But suppose he has read a forceful article on brick construction and its comparative cheapness. Brick is at once a competitor for that business and has already had a hearing at court.

MAKE CAMPAIGN COMPLETE

General publicity is necessary to prepare the country for more specific advertising; it is an absolute necessity and after we have covered the ground in a general way the second thing necessary in our promotion scheme is to prepare a full and complete line of literature in which we set forth clearly and unmistakably the advantages of brick construction over all other construction and also that we prove absolutely by numerous concrete examples the relative costs of brick, frame, stucco, cement, hollow block, etc. In this literature we ought to make no guesses, but we want to show numerous buildings with absolute figures from reputable contractors as to the cost of the various kinds of construction; then we want to place this literature in the hands of every manufacturer of face brick and every dealer of face brick, and thru them into the hands of every prospective builder.

There are now thousands of buildings going up where brick has never been considered. Let us make our publicity campaign so complete that there will not be a building go up anywhere without brick having had a hearing.

FARMER SHOULD NOT BE FORGOTTEN

Do you suppose that the average farmer with plenty of money would build a frame house in the country where he has no fire protection; a frame house that is colder in winter and warmer in summer; a frame house that depreciates rapidly from the minute the house is completed, if he knows that for from six to ten per cent. more money he could build a brick house that would reduce his insurance; that would give him a more comfortable home; a home that would still be comfortable and beautiful after a frame house had rotted down?

The whole country is familiar with the lumber advertising, showing that white pine houses are still in use after two hundred years, but these advertisers do not guarantee that the lumber which they will furnish will be as good as the selected white pine of two hundred years ago, but the brickmaker can refer to buildings more than two hundred years ago that are as good today as when they were built as far as the brick are concerned and will be in five hundred years hence, and not only that, he can show that there are better brick turned out today than ever before in the history of the world, so we have in face brick a building material that is practically perfect in color, texture, beauty, and more durable than any other facing material that can be produced.

With an article of this kind why should this industry hesitate one second about carrying our case to the general public? A manufacturer with a legitimate article to sell who has carried his case to the buying public in an intelligent way has never failed.

There are instances where a big business has been built up by extensive advertising even when the product was not meritorious; you know examples of this kind.

Brick has been known since time immemorial and that has been one of the difficulties with the face brick manufacturer; he has taken it for granted that because we have

always had brick that everybody understands the value of brick.

We are only selling about \$11,000,000 worth of face brick per annum, as against \$100,000,000 of cement and more than \$700,000,000 of lumber.

HOW ACCOUNT FOR COMPETITIVE INROADS?

It has not been many years since a building was constructed either of wood or lumber, but today we have a large percentage of stucco and cement building. How can we account for the inroads made by cement on brick and lumber construction?

Allow me to quote from the very able paper read before the American Face Brick Association, by Dr. G. C. Mars, at our last meeting. In speaking on this subject he says: "The inroads which the cement and stucco business has made upon the brick and lumber business is accounted for by the use of intelligent and serious modern methods of merchandising. These people have literally spent millions of dollars in the past ten years in propaganda, in national publicity, in carrying their message to the universal market of purchasers. They have used space in the periodicals, published books of instructions and plans, established laboratories of scientific research, and subsidized public lecturers, and have left no stone unturned to show people everywhere what cement is and can do. They forced upon the public mind an understanding of the myriad uses and merits of cement construction. They taught people how to be born in a cement house, be baptized and married in a cement church, work in a cement factory, travel over a cement road, sail in a cement ship, and be buried in a cement grave."

The manufacturers of cement and lumber have found the brick manufacturer so innocent, so childlike, and so inoffensive, that they have not hesitated to enter his domain and help themselves to whatever they desired, knowing that there would be no comeback.

EVERY MATERIAL HAS LEGITIMATE FIELD

Everybody admits the value of cement in its legitimate uses and the field is wide and varied, but the cement manufacturer is not content with his legitimate field and he pushes the use of cement in the facing of buildings when he knows that cement block is not a fit material for the outside facing of any building; it is unsightly, insanitary and will not stand the ravages of time.

The lumber manufacturer and dealer is not satisfied with the legitimate use of lumber. Even in the average brick house the cost of lumber is from two to four times the cost of brick and yet they are not satisfied but want to replace brick with lumber altogether. They want to hog the whole market and we brick manufacturers never "peep." Don't you think we are long suffering when more than eighty-five per cent. of the homes of this country are built of wood. Surely "meekness" ought to be our middle name.

It took this Association five years to gain courage and confidence enough to put into effect the open price policy which saved the whole industry from going on the rocks in the year just closed. How much longer is it going to take us to put over the promotion plan which we are now considering? Why hesitate? We are getting nowhere except to the rear.

The cement, lumber, terra cotta and hollow ware associations are expending huge sums of money to keep their wares before the public eye; what are the brick manufacturers as a whole doing? *Nothing, absolutely nothing.* Only the inherent superiority of our product has kept our heads above the waves.

ENGINEERING DATA TO BE COMPILED

Our promotion plan if carried out would enable the industry to work out the engineering problems incident to the use of brick and place the information in concrete form in the hands of architects, engineers and the general public.

Every industry except the brick industry has worked out complete working details and has placed them in the hands



The Lumber Manufacturer and Dealer Is Not Satisfied With the Legitimate Use of Lumber. Even in the Average Brick House the Cost of Lumber is From Two to Four Times the Cost of Brick, and Yet They Are Not Satisfied But Want to Replace Brick with Lumber Altogether. They Want to Hog the Whole Market and We Brick Manufacturers Never "Peep."

of every architect and engineer in the country, so that with this information the architect or engineer is able to fabricate any kind of construction, knowing positively and definitely just what the material will stand and how it can be used.

If an architect wants to know just how much weight a steel girder of a certain size and length will support, he has nothing to do but turn to a table worked out by the steel manufacturer, and there the desired information can be found in a moment. But suppose the architect is undecided whether to use a steel column or a brick column, he can ascertain at once from his steel directory just how much weight the steel column will support, but he seeks in vain as far as the brick manufacturer is concerned as to the strength of the brick column.

Every engineer is interested in the crushing strength of brick, the elasticity of the wall, the absorption qualities, size, color and texture of the brick. Why, bless your soul, we have never had gumption enough to make brick of a uniform size.

OTHER WORK TO BE DONE

Adopt this promotion plan and the Association could at once begin not only a general publicity campaign but give much needed attention to state and city building codes, the extension of fire limits in large cities, look after proposed new plants, and cooperate with the face brick dealers and common brick manufacturers.

SOME HESITATION *in* GENERAL BUSINESS *but* NO LOSS *of* CONFIDENCE *is* APPARENT, *says* FEDERAL TRADE BOARD *in* REVIEW *of* CONDITIONS THRUOUT COUNTRY

BUSINESS CONDITIONS thruout the United States are reported by the Federal Reserve Board as follows:

"Practically thruout the country the month of January has been characterized by the uncertainty incident to a period of transition in business. In some cases more readjustment than had been expected has proved to be necessary. Favorable developments which some had thought would present themselves immediately after the conclusion of the armistice with Germany have been delayed. There has, therefore, been 'hesitation' in business but not essential loss of confidence in the future of the general situation.

VAST CHANGES IN PROGRESS

"Vast changes are now occurring in industry and extensive readjustments in labor. Slackening in productive effort is reported from manufacturing districts, but retail trade has as yet shown only moderate decline and in some cases little or none. Such dullness as exists is attributed to the usual after-holiday reaction, and it is the general opinion that the influence of changes in manufacturing and wholesaling lines have not yet reached the retailer and consumer.

"In the manufacturing field the changes that are taking place are affected primarily by alterations in the prices of raw materials and changes in the direction of demand. The extensive cancellation of Government war contracts has resulted in modifying the plans of many producers, while the withdrawal of Government restrictions upon the movement of raw materials has led others to the adoption of a conservative policy, pending the 'settling down' of prices upon a stable basis. The changes that have taken place are, however, described as being productive of less disturbance than might reasonably have been expected, while the tone of the business community and its expectation of prosperous conditions to develop in the near future is strong.

PROCESS NOT EASY

"In a variety of lines in which the Government has controlled the bulk or a large part of the stock of a commodity, the process of bringing about readjustment is not proving easy. The wool auctions, for example, which were first held, seemed to be too high a price basis, but subsequent revisions of prices have brought about better buying and stronger demand. The large supply of wool now available has limited buying in South America. Producers of dry goods, however, find trade slack, while in the cotton trades reductions of prices which have already occurred are the largest at any time since the Civil War, and the profits at the mills have been correspondingly curtailed. Purchases for building purposes have been small, and would-be consumers, who had made contracts at high prices, have demanded a revision of the rates charged them.

"Price movements show, on the whole, a general tendency to decline, which has become more marked since the opening of the new year. While the general index number of the Bureau of Labor Statistics remains unchanged at 206, the number for producers' goods, as computed by the Fed-

eral Reserve Board, shows a falling off from 205 in November to 199 in December.

"On the other hand, consumers' goods showed a continued increase, rising from 214 in November to 216 in December. During the early part of January there was a sharp downward tendency in many classes of prices, particularly in staple woolens, cottons, iron, and steel, and, finally, in some classes of farm products. The movement toward price reductions is now fully under way.

STEEL MILL PRODUCTION

"Information for the first two weeks of January, which was transmitted by one of the principal producing centers, indicates that the production of steel mills in the district is about 65 per cent. of capacity, such production, however, being equal to about 90 per cent. of the prewar production of the plants. In the nonferrous metals, reports from various producing districts are unfavorable.

"Cattle receipts at the six markets of the Kansas City district have been about 43 per cent. larger than in January a year ago, and have shown a higher level of prices than prevailed at the beginning of last year. The supply and movement of meat animals is more extensive than at the opening of 1918 and receipts of hogs as well as of sheep are particularly heavy.

REDISTRIBUTION OF LABOR

"Labor is passing thru a period of redistribution. Demobilization is proceeding rapidly and is already liberating a considerable quantity of men available for employment, while it is also bringing about a redistribution of men, many deciding not to return to their original places of residence. On the other hand, many employes are being set free in the so-called 'war industries.' The process of absorbing the labor made available in these two ways into other lines is still relatively slow.

"The labor situation varies very greatly from place to place, and in some of the eastern sections of the country where returned soldiers have been demobilized in large numbers unemployment presents a problem of difficulty.

BANKING CONDITIONS ENCOURAGING

"Financially it is reported that banking conditions are encouraging. Money is flowing back to the financial centers, and there has been a shrinkage in the outstanding volume of Federal Reserve notes at a number of banks. United States Treasury certificates have generally been satisfactorily disposed of, altho some banks have had trouble in absorbing their quota. This has led to some increase in rediscounting at a number of banks. During the past 10 days, however, there has been an easier tendency in money and rates have been lower. In some sections banks have not taken up their entire quota of Treasury certificates. Commercial paper is markedly easier, especially for the prime varieties, but rates for collateral loans are but slightly changed. The rate tends to become firm as the period of the paper increases. Financing in the form of short-term notes and bonds has been successful, but rates have been firm to strong."

TILE COMMITTEE *of* CLAY PRODUCTS MANUFACTURERS *see* MINISTER *of* AGRICULTURE

AT THE 1918 CONVENTION of the Canadian National Clay Products' Association and Western Ontario Clay Workers' Association, committees were appointed to act jointly on the tile situation and present recommendations for its improvement to the Department of Agriculture. Representing the C. N. C. P. A. were H. H. Hallatt, chairman, Thos. Kennedy, Millard F. Gibson and Gordon C. Keith, secretary of the committee. Representing the W. O. C. W. A. were Calvin S. Parker, W. McCredie, Robert T. McDonald and Alfred Wehlann. The committees met together and agreed on several plans which, if followed, would, they were sure, greatly stimulate the tile industry. These were submitted to Hon. Geo. S. Henry, Minister of Agriculture for Ontario, and the Deputy Minister, Mr. Roadhouse, on February 12.

Among the recommendations were that the minimum car tonnage should be raised and the freight rate reduced, the necessity for inspection and standardization of drain tile, the inspection of installation of drain tile, ditching machine operators should be licensed, that the government should assist tile manufacturers with their problems. The Tile Drainage Act should be amended to permit a farmer to borrow a certain percentage of cost of work done and not a maximum amount as at present whether he owns 25 or 200 acres of land, and the government should appoint a commission to control tile drainage.

It was pointed out to the Minister of Agriculture that at present we are only underdraining half of a very small township each year. In connection with licensing operators it was explained that tile are made to last generations and that in these days of scientific progress, every precaution should be taken to guarantee efficient and permanent construction.

There are tile being made which will not stand a reasonable test and there are ditching contractors doing poor work who could not possibly qualify under the license system without acquiring further knowledge of the work. The average farmer cannot be expected to know all about tile and he innocently gives a good machine and surveyor's instrument credit for doing good work, without thought of the ability of the operator or surveyor.

It was suggested that the government might even investigate improved methods of manufacturing tile which would result in a bureau of ceramics being established.

The suggestion that tile drainage be prompted by a commission was prompted by the belief that a central body should control the loans to farmers and the inspection of tile and tile drains. Such a commission could carry on an educational underdrainage campaign and could promote the manufacture of drain tile in sections of the province not now supplied.

The committees received a very cordial reception and when the suggestions and recommendations were placed before the Minister of Agriculture, he promised a careful consideration with them and that his staff of experts would consider them carefully.

* * *

Canada Appropriates Money for Building

Canada is facing a housing shortage, as well as the United States, and the Dominion government has stepped in to help solve this imperative problem by creating a hous-

ing fund of \$25,000,000. This fund will be available by way of a loan to the several provincial governments for the carrying out of a program for the construction of model houses for industrial workers. The amount of the loan to each province is based upon its proportion of the total population of Canada. On this basis, in Alberta, for instance, the loan will provide for about 530 houses at a cost of \$3,000 each. It is designed that the money shall be used in the larger industrial centers only and for workingmen's dwellings but it is probable that some of the smaller mining sections will receive aid because of their great need.

There was practically no building in the provinces during the war and at present most cities are in great need of housing accommodations. As in the States, not only will this campaign in Canada improve housing conditions, but it will enable the provincial governments and municipalities to provide employment for returned soldiers during the readjustment period.

* * *

Trowel Makes 'Em Think of Brick

If, in the future, every contractor and large builder in Cleveland does not think of the Barkwill-Farr Co. and common brick, upon opening the morning mail, it will not be the fault of that concern, for it has been distributing a very novel letter-opener in the form of a miniature trowel bearing the imprint of the company. The idea is a good one and ought to pay the Barkwill-Farr Co. dividends as has, no doubt, the famous slogan "Buy Farr the Best" that was so widely propagated in the "Sixth City" beginning with the days of "Bob" Mitchell.

The company has also erected a strikingly effective billboard or sign built with brick at a cost of about \$10,000, located at a point where the traffic is particularly heavy in Cleveland.

* * *

Eastern Paving Brick Manufacturers' Association Organized

A new paving brick organization, to be known as the Eastern Paving Brick Manufacturers' Association, was formed at Harrisburg, Pa., February 24, by prominent interests in this industry from Ohio, West Virginia, Pennsylvania and New York. The gathering was called for the purpose of devising ways and means for the promotion of brick in



connection with the forthcoming highway work in these different states. It is proposed to actively advance in every possible channel the value and utility of paving brick for road improvements, showing by actual reference and demonstration the efficiency and substantial wearing qualities of this material under all conditions of present day highway traffic.

M. E. Gregory, of the Brick, Terra Cotta & Tile Co., Corning, N. Y., acted as temporary chairman of the meeting prior to the formation of a regular organization, and following which, these officials were elected for the ensuing year: Ray Winslow, of the Prudden-Winslow Co., New York, president; M. E. Gregory, vice-president; R. T. Hutchins, of the Mack Manufacturing Co., Wheeling, W. Va., treasurer; and W. C. Perkins, formerly with the Dunn Wire-Cut Lug Brick Co., Conneaut, Ohio, secretary. The last named will also act as promoter for the new organization, making a thoro canvass thru the various localities in connection with the missionary and selling work now in view. To defray the cost of this work and for the executive expenses, each member of the association has subscribed \$250 to a regular organization fund.

While in session, the members were favored with a meeting with Lewis S. Sadler, Pennsylvania State Highway Commissioner, and who will be in charge of the vast appropriations to be expended in new road construction in this district, which during the next few years will aggregate \$50,000,000 in accordance with bond issues voted. A number of the interests affiliated with the new paving brick manufacturers' association are identified with similar organizations in New York and Ohio. Among those present at the gathering were C. C. Blair, Canton, Ohio, National Paving Brick Manufacturers' Association; Spencer Duty, Medal Paving Brick Co., Cleveland, Ohio; Mr. Manning, Peebles Paving Brick Co., Portsmouth, Ohio; John Mahoney, Jamestown (N. Y.) Shale Paving Brick Co.; Mr. Ryan, Allegheny Valley Brick Co., Olean, N. Y.; Frank Stowell, Olean, N. Y.; and C. P. Mayer, Mayer Brick Co., Bridgeville, Pa.

Those returning to the East, took a night train from Harrisburg and with the prominent brick representation aboard it was characterized as the "Brick Makers' Special." Those in the gathering took it upon themselves to "own the train" and with but one or two foreign interests in the same sleeper, there were "noisy times" until well on into the morning. In fact, there was little sleep for anybody. It was a jolly, happy crowd that boarded the train at Harrisburg, and the same jolly and happy, but rather sleepy crowd that disbanded the next morning in New York. The fulfillment of the meeting at the capitol city put everybody on edge—and it was a pretty sharp edge as the night went along; even the Pullman porter was shown how to do "stunts." The spirit of good fellowship was entered into by every member of the party and the occasion will not be forgotten by the participants for many a day.



No Material Reductions Expected in Lumber Prices

Horace F. Taylor, president of the National Wholesale Lumber Dealers' Association, writing from Buffalo, N. Y., to the Division of Public Works and Construction Developments of the United States Department of Labor, does not hesitate to say material reductions in lumber prices will develop very slowly, if at all. Mr. Taylor says:

"The very clear majority of opinion we derive from representatives of the industry in all parts of the country, is in effect that there will be no further reduction in the cost

of lumber for a long period, and that there is no safe ground, therefore, for postponing building in the hope of a price reduction in this material. We look upon the present rather quiet conditions as temporary only and due to industrial readjustment, soon to give place to very sound activity. The cost of making lumber offers no chance of reduction, both on account of materials and supplies, and the cost of labor which, it seems not only necessary but desirable to maintain at as nearly an adequate rate as possible in view of the present cost of living. In addition to the ordinary increase in demand that is expected, an unusual call for lumber for export to Europe will soon begin to have its effect on the situation. Logging conditions during the present winter have been unfavorable, particularly in the North, and lumber production will apparently be less than that of normal years for some time to come. There is only one possible conclusion based upon the opinion of those consulted and that is that as far as the lumber market is concerned, the present is an advantageous time to purchase."



How the Lumbermen Do It

The director of sales of the War Department has executed a contract with J. L. Philips and John Stephens, of Jacksonville, Fla., the duly authorized representatives of the National Bureau of Wholesale Lumber Distributors, the National Retail Lumber Dealers' Association, West Coast Lumber Association, the Central Pennsylvania Lumber Co., the Southern Pine Association, the Georgia-Florida Saw Mill Association, and the North Carolina Pine Association, for all of the surplus lumber in the war department on projects where there is any considerable quantity of this lumber to be disposed of.

Messrs. Philips and Stephens represent practically all of the lumber producers of the United States. They have purchased the lumber and agree to resell it at the market price for the various species and grades of lumber, paying to the war department the amount received for this lumber less the actual expense of selling; and, in addition, they agree to clean up the entire surplus lumber within the coming six months.



Plans Made in Many States to Build and Improve Roads

Altho weather conditions in many parts of the country make it necessary to delay work on public roads and other outdoor projects, many states report to the Department of Labor that preparations are being made to employ large numbers of men as soon as possible. It is estimated that about \$300,000,000 will be spent during 1919.

In California agitation in favor of the Tahoe-to-Ukiah highway, for which an appropriation of \$3,000,000 has been asked from the state, is focusing attention and bills have been introduced in the legislature for the construction of roads from the San Joaquin Valley to the coast and for a road connecting the California and Nevada highway systems.

Kansas has under consideration a hard-surface program that eventually will cost \$60,000,000. This contemplates several thousand miles of highway connecting all the market centers and county seats in the state.

The chairman of the state roads commission of Maryland has announced that \$6,000,000 will be spent on the roads of the state, beginning the end of February, provided the weather is favorable. Illinois has approved the issue of \$60,000,000 of bonds to be used in the next five years for

the construction of 4,800 miles of good roads. Utah is interested in going on with work stopped by the war, \$1,300,000 being available.

Greatest of all are the demands for work in New York state where State Highway Commissioner Edwin S. Duffy sees the need of a vast expenditure in addition to the \$75,000,000 appropriation now being used. Ohio is to spend more than a million in 37 miles of state-aid roads.

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Freight Rates on Building and Road Materials to Be Cut

"As a step toward increasing building activities thruout the country, which is the one immediate hope of reducing unemployment," says the Washington "Post" of March 7, "the United States Railroad Administration will in a few days cut down the freight rates on building materials of all descriptions from the present high levels to the pre-war standard. The proposal, put forward by some of the leading economists in the country, has met the approval of Walker D. Hines, director of railroads.

"The cut will apply not only to material for general construction of buildings, but material for roads as well, in the hope that private interests will seize the opportunity with the opening of spring to let contracts generally.

"Such a cut would of course reduce the cost of lumber, brick, cement and structural steel, and would be an invitation to those who are contemplating building to go ahead with the work."

Reduction in the freight rates on all building materials, especially road materials, was urged in resolutions adopted by the governors' and mayors' conference at Washington on March 5. Those rates "should be radically reduced," the resolution said, "and any deficit resulting to the federal government will be more than offset by the prosperity it brings."

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New Firm of Face Brick Specialists

Leo A. Krueger, former manager of the face brick department of the Cuyahoga Builders Supply Co., Cleveland, has organized the Cleveland Clay Products Co., and has taken as his co-worker Mr. John Scheuer, former manager and owner of the Lakewood Mason Supply Co., Cleveland. It is the intention of this firm to specialize in clay products and terra cotta exclusively, and to take on no conflicting lines, thereby assuring the manufacturer the best representation that can be had.

Connections have been made with some of the best known manufacturers coming into the Cleveland market, with bright prospects of their material being sold in large quantities.

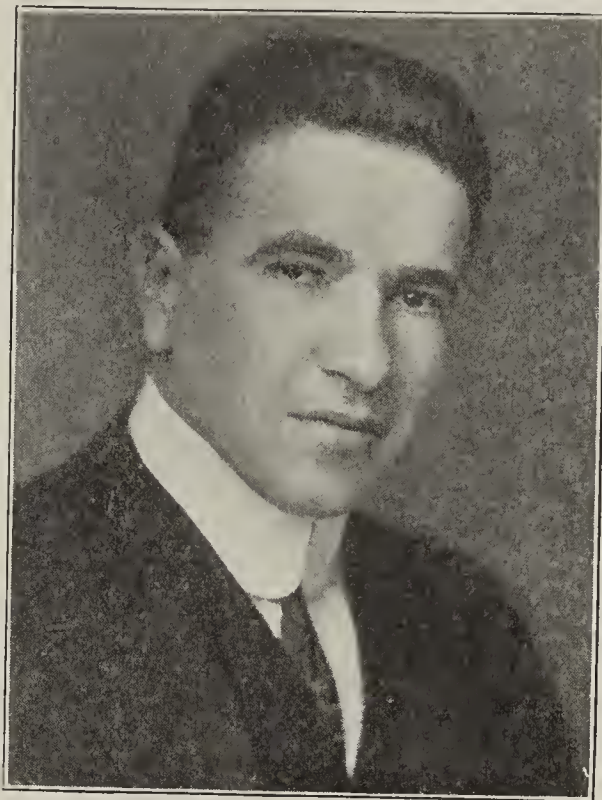
Mr. Krueger has been identified with the brick business in Ohio for the last eight years and is one of the best

known members of the trade. Mr. Scheuer has been in the general builders' supply business for the last ten years. Mr. Krueger is president and manager of the new firm and Mr. Scheuer secretary and treasurer, with offices and display rooms in the Schofield Building, where their friends are welcome to stop in and give them the "once over."

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New Paving Brick President

The National Paving Brick Manufacturers' Association has elected a new president. He is W. W. Winslow, 701 Fidelity Trust Building, Indianapolis, Ind. The election took place at a meeting of the board of governors of the



W. W. WINSLOW

association in Chicago, Monday, February 10. C. C. Blair, of Canton, Ohio, having faithfully served for two years as president of the association during a time of most trying experiences, now retires as executive head of the association.

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W. C. Iffarth is the engineer in charge of improvements that are to be made at the Fairfield, Ala., plant of the Harbison-Walker Refractories Co., whose headquarters are in Pittsburgh, Pa. Six new kilns will be erected as early as possible and a new stock shed is to be built. The headquarters of Mr. Iffarth are in Pittsburgh.



CLEVELAND CUTS PRICES *to* STIMULATE BUILDING *thruout* the COUNTRY

WHAT BRICK, tile and building material men thruout the country probably will consider the most sensational step yet taken in any community to stimulate the building industry this spring, is announced by Cleveland,

Ohio, interests this week, in radical reductions on every kind of material entering into building construction.

The move is voluntary thruout the Cleveland district, in compliance with the request of the mayor's building

committee to make the material situation so attractive that prospective builders will at once take advantage of the concessions. That there is logic in this is indicated by the marked increase in number of inquiries for all descriptions of material, according to Frank B. Te-Loeken, assistant sales manager of the Cleveland Builders Supply Co.; E. J. McGettigan, sales manager of the Barkwill-Farr Co., and others. Improvement in orders also is noted, but the real revival of building interest probably will not be felt until toward the end of March, it is admitted.

CONCESSIONS GOOD 90 DAYS ONLY

The concessions made by the brick and allied interests here are made on one strict condition. The prices, as revised, will be in effect for 90 days. At the end of that time if sufficient buying has not developed, the prices will be put back to the level they held before the reductions were made.

"The reason for this is simple," say Mr. McGettigan. "Every dealer is taking a gambler's chance. If sufficient business comes forward, overhead will be reduced sufficiently, and some profit obtained thru the larger amount of business, to permit a continuance of the present level. Until that condition develops, everyone in the industry here stands a chance to lose, because every brick and tile that is sold at the new price is sold at a loss. It cannot be replaced with new material at that figure. It is purely up to the building public. To warrant a continuance of the new price level, we feel, with all others in the trade here, that building must come up to 75 or 80 per cent. of normal."

The Barkwill-Farr Co., according to Mr. McGettigan, has been the most radical in offering concessions to the building public. On brick the average reduction is 12½ per cent., and on tile 30 per cent. This company has gone a step further, and has adopted a new policy for the time being. It is taking large space in the local daily newspapers, explaining its position in offering the new lower prices, and urging immediate acceptance of the figures by those contemplating to build. It goes further by explaining that simply because these prices have been voluntarily reduced, there is no guarantee that they will not be put back to the former level, if they do not actually go still higher. In this way it is encouraging the building public to realize that there is hardly any probability of prices being still lower six months or a year from now.

PRICES AS ANNOUNCED

Here are the figures announced by the Barkwill-Farr Co., effective for ninety days from March 1:

Building tile, sizes 5x4x12 inches, was reduced from \$41.25 a thousand to \$26. Other sizes were reduced from \$68.50 and \$109.75 a thousand to 50 and 76, respectively.

Common brick.—Kiln run, old price \$14; new price \$12.50. Hard brick, old price \$16; new price \$14. Selected face, old price \$20; new price \$18.

Shale brick.—No. 1, old price \$18, new price \$16; No. 2, old price \$16, new price \$14; selected, old price \$22, new price \$20.

Drain tile.—3-inch size, old price \$31, new price \$23; 4-inch size, old price \$43, new price \$33; 6-inch, old price \$69, new price \$55.

The new policy, temporarily, adopted by the company, is in selling retail to the consumer.

Another leading firm here to co-operate with the committee's plan for renewed building activity is the Hydraulic-Press Brick Co. H. H. Crowell, manager of the local district of this company, announces a temporary

reduction of \$2 per M on face brick. "Continuance of these new figures depends entirely upon how much it costs to manufacture from now on," says Mr. Crowell. "If production costs go higher, it is certain that the lower figures cannot remain. It is our hope, however, that this concerted move will result in stabilizing the building situation."

Altho Cleveland dealers are willing to take this long chance, it is admitted that they cannot long continue to do so unless manufacturers make similar concessions. This is adequately illustrated by George S. Gynn, president of the Cleveland Board of Lumber Dealers, in explaining the lumber situation. Prices for lumber to the dealers is actually higher since the war ended, says Mr. Gynn, yet in the face of this the local dealers have been willing to make an average cut of 5 per cent. on their material.

Similar sentiment is expressed by Herb F. Geist, president of the Builders Supply Association, and who was one of the material men on the local building committee.

An average reduction of 10 per cent. has been effected on all other materials.

Success of the entire undertaking, so liberally handled by the dealers, now seems largely dependent upon the action of organized labor, in its impending demands for still more money from employers in various branches of the building industry. Definite settlement of any differences existing between contractors and labor has been asked by the different factions of the Mayors' Building Committee, which are represented by dealers, contractors, labor and finance. Settlement of the wage scales is urged, and probably will be realized, by March 15. Leaders in all factions of the employing branches of the building industry admit that amicable agreement between employers and labor will make for success of the plan for renewed building activity, and will make for a favorable condition growing out of the dealers voluntary contribution to the cause in lowering their prices. Should no settlement be reached so that spring-time building can resume upon the scale expected, a serious reflection upon the dealers action will result, for lack of movement of material into consuming channels, it is pointed out, whether thru unsettled labor conditions or whatever the cause, will mean a revision to the higher levels of material prices, and perhaps forestall the long hoped for building activity.

INCREASES ASKED IN WAGE SCALE

The problem that the contractors face may be summed up in the following table, indicative of what labor, at least 13 of the 20 building trades unions, are asking in increased wages:

Trade	Wage Now	Wage Asked
Asbestos workers.....	.70	.85
Bricklayers .....	.90	1.15
Carpenters .....	.80	.90
Cement finishers.....	.80	.90
Gravel roofers.....	.65	.75
Electricians .....	.90	1.00
Electrical constructors.....	.75	1.00
Hoisting engineers.....	.85 and .90	1.00
Electrical fixture hangers.....	.70	.90
Structural iron workers.....	.90	1.00
Painters .....	.67½	.90
Stone cutters.....	.80	.90
Common laborers.....	.55	.65

Altho no definite statement as to the resources of banking, savings and loan associations and other financial interests has yet been made, it has gone out quietly that there is plenty of money available for loans, especially for house building purposes. It is expected that some idea of the amount of money to be used for this purpose, and the length of time to which it will be extended, will soon be forthcoming from the building committee, of which M. A. Bradley, vice-president of the Union Commerce National Bank, is chairman.

MINNESOTA CLAY MEN URGE LEGISLATION FAVORABLE *to* BUILDING *and* DRAINAGE

*Northwestern Clay Association Holds Annual
Meeting at Minneapolis, February 20 and 21*

SLIM ATTENDANCE did not mar the success of the Northwestern Clay Association convention, held at the West Hotel in Minneapolis, on Thursday and Friday, February 20 and 21. Altho only twenty-five men registered at the sessions there was plenty of interest in the meeting and everyone felt that he got something worth while out of it. As a matter of fact, the small attendance proved an advantage in many ways. There were more opportunities for interchange of thought and the sessions resolved themselves into round-table discussions, which were highly interesting as well as very instructive.

Since the past year was one of little activity the officers' reports and the reading of the minutes was dispensed with. President R. H. Smith, of the association, then gave a short talk on the conditions of the past year, and showed the need of getting together this year to help each other out in meeting the many new and perplexing situations that are now exhibiting themselves in the clay industry. Following the appointment of committees on resolutions, nominations and auditing and a short address on association work by F. L. Steinhoff, associate editor of *Brick and Clay Record*, the assembly listened to a talk, in the real sense of the word, by F. J. Pollay, of the United States Department of Labor. Mr. Pollay's speech was quite informal and dealt on economic conditions in this country at the present time and their effect on the future. He showed the need for building of new school houses, since he said that most of America's ills could be traced back to a lack of proper education and environment. He also pointed out the need of a resumption of all building to absorb the surplus labor and soldiers discharged from military camps. A Government survey, according to Mr. Pollay, has disclosed the fact that our home building program has lagged during the war to the extent that 1,000,000 homes for working-men are now needed in all parts of the country.

After finishing the main features of his talk he spent a considerable length of time in answering questions which were brought up by the different men present. These questions revealed some peculiar conditions which exist in the field of labor and showed the need of a careful handling of the situation. The talk given by Mr. Pollay, together with the discussions which followed it, lasted three hours, which is a good indication that a great deal of interest was displayed at this session.

VAUDEVILLE SHOW FOLLOWS BANQUET

In the evening a splendid dinner was served at the banquet in one of the rooms of the West Hotel. After the tasty food had been properly stored away, Mr. Rosengrant, of the Colburn Brick & Tile Co., gave a short talk on his experiences with the army building construction department and he referred especially to work done in connection with the shipbuilding program at Hog Island.

Since there was not much time left after the banquet to hear many speeches, these were dispensed with in order to be on hand for the opening of the show at the Orpheum Theater, where seats had been reserved for all and a splendid vaudeville bill was enjoyed.

At 10:00 o'clock the next morning everyone was again on deck when the gavel sounded to call the meeting to order. At this session was given the report of the various committees. The nominating committee recommended the following officers for the year 1919: President, F. B. Martin, of Minneapolis; vice-president, C. K. Willard, of Heron Lake, Minn.; secretary-treasurer, H. W. Linder, of Minneapolis. The board of directors named for the coming year were C. J. Swanson, of Minneapolis; G. A. Welch, of Minneapolis; Jacob Voelker, of Winona, Minn.; W. A. Ochs, of Springfield, Minn., and V. F. Kreycik, of West Concord, Minn. The association passed on these recommendations and they will be in effect from now on.

RESOLUTIONS COMMITTEE MAKES REPORT

All of the resolutions drawn up by the committee were then read and adopted. They are as follows:

Resolved, by the Northwestern Clay Association, that we earnestly endorse the steps being taken by the Government officials in seeking to get industry back into activity after the interruptions caused by the war, and we pledge our efforts to aid the work in every way.

Resolved, That we urge upon the legislature of the state of Minnesota, to give such changes of laws governing building and loan associations as may enable them to finance a greater number of home projects, while preserving the safety which should surround banking institutions.

Resolved, That we extend congratulations to Mayor Ole Hansen, of the city of Seattle, Wash., for his sterling Americanism.

Resolved, That we favor the early return of the railroads to private operation, under such control as will guard against a renewal of the abuses of the past.

Resolved, That we favor the spirit of the League of Nations, as calculated to work for universal and lasting peace.

Resolved, That the thanks of this association be extended to Mr. Pollay for his able and enlightening talk.

Resolved, That the thanks of the association are extended to the officers of the association for the work which they did during the past year, under the disheartening conditions which prevailed.

Resolved, That the thanks of the association be extended to the management of the West Hotel for courtesies extended during our convention, and to the speakers and others who have contributed to our program.

Resolved, That we urge the railroad commission to correct the discrimination against brick in making the recent

increase of freight rates out of proportion to other commodities.

Resolved, We urge the Minnesota legislature take action for a comprehensive campaign for drainage construction for the best good of all.

URGES COMMON BRICK MAKERS TO JOIN ASSOCIATION

An enlightening talk upon the formation, purpose and plans of the Common Brick Manufacturers' Association of America was then given by C. J. Weber, of Chicago, who represented the above association at the meeting. A discussion which followed this talk opened up a number of suggestions of work which might be undertaken by the Common Brick Manufacturers' Association, that would be of untold value to all common brick makers. The result of the discussion was that a number of the men signed applications for admittance to the association, for they were convinced that the organization could do that work which they realized was necessary but which could not be done by individual effort. When the aims of this organization became clear to them they knew that they could not afford to keep out of it.

After the above discussion the meeting adjourned until afternoon, when a joint meeting was held with the Minneapolis Builders' Exchange and the Minneapolis Real Estate Board at the Builders' Exchange Building, where F. J. Pollay addressed the assembly.

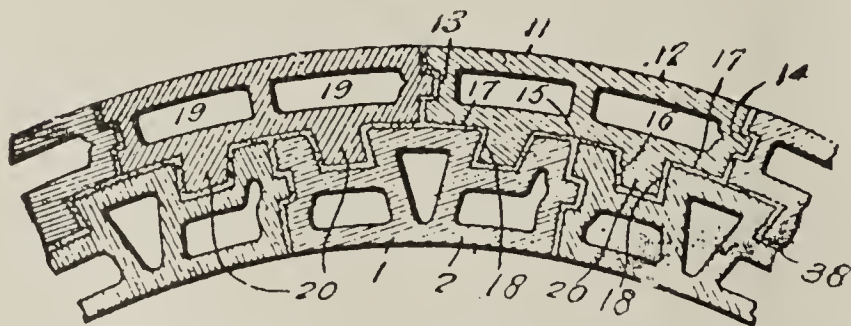
Those who attended the meeting of the Northwestern Clay Association are:

N. L. Meir, La Crosse, Wis.
R. G. Meir, La Crosse, Wis.
C. J. Weber, Chicago, Ill.
L. Haigh, Bucyrus, Ohio.
Rufus P. Morton, Princeton, Minn.
R. H. Smith, Minneapolis, Minn.
George Madsen, Hutchinson, Minn.
J. J. Meehler, Chicago.
J. J. Jones, Minneapolis, Minn.
V. F. Kreycik, West Concord, Minn.
Ole Arnegard, Hillsboro, N. D.
B. F. Pay, Mankato, Minn.
E. B. Hanson, Fertile, Minn.
Jacob Voelker, Winona, Minn.
C. H. Millard, Heron Lake, Minn.
H. W. Ahrens, Okubeme, Minn.
M. C. Madsen, Hutchinson, Minn.
Henry Hess, St. Cloud, Minn.
H. M. Farnham, Princeton, Minn.
G. A. Welch, Minneapolis, Minn.
R. H. Smith, Minneapolis, Minn.
H. W. Linder, Minneapolis, Minn.
Adolph Schraeder, Shakopee, Minn.
F. L. Steinhoff, Chicago, Ill.

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New Sewer Block Patent Awarded

William Beall Gray, of Louisville, Ky., who recently was awarded patent No. 1,283,737, consisting of special arch construction blocks for sewer pipe, assigned the



Special Arch Construction Blocks for Sewer Pipe, Recently Patented.

patent in advance to Martin J. Bannon, of Louisville, who is connected with the P. Bannon Pipe Co. This patent is known as an arch construction for conduits consisting of

a wall composed of an inner and outer series of blocks, the blocks being curved transversely to conform with the curve of the arch, each block having at one side edge a longitudinally extending groove, and at the other side edge a longitudinally extending rib, said ribs and grooves being adapted to interlock with the ribs and grooves of adjacent blocks, the inner faces of the blocks of the outer series being provided on their inner faces with longitudinally extending ribs spaced apart from each other, and from the adjacent side edges of the blocks, and the outer faces of the blocks of the inner series being provided with longitudinally extending grooves spaced apart from each other and from the adjacent side edges of the block, and adapted to receive the ribs of the blocks of the outer series. The blocks fit together as in the accompanying drawing.

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Expects a 50 to 75 Per Cent. Year

What was perhaps one of the most interesting features of the recent American Face Brick Manufacturers' Association convention, held at the Edgewater Beach Hotel in Chicago, was the ten minute talks given by the division chairmen. The chairmen, one by one, arose and in an informal way told in a very clear and unrestrained manner exact conditions as they exist in the sections of the country which they represent, referring particularly to the face brick manufacturing business.

B. W. Ballou, who is secretary of the Kansas Division, reported the following as a reflection of conditions in his territory: "We had practically no war orders to fill last year, therefore business came to a standstill in the fall when the general building operations were interrupted by restrictions made by the War Industries Board; the result is we have practically no slack of this kind to take up and no shifting from war to peace basis.

"The bulk of the plants closed down in the fall, first on account of lack of business, second because they could not produce their material at a price that would justify them to either put the brick in stock or sell at prevailing market price. Labor conditions were bad in that we not only had to pay high prices but it produced about 50 to 75 per cent. of the amount of brick that we usually produce with the same amount of labor under normal conditions. At the present time there is a surplus of labor with very little reduction in price, but plants are able to get better production with the same number of men.

"Some little business is coming up but indications are that spring business will be slow in moving, but as a whole we figure there will be from 50 to 75 per cent. of a normal year. The only thing we can see to interfere materially with the business in this section is a decided dropping in prices which is not probable under present conditions."

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New \$100,000 Iowa Corporation Formed

A consolidation of the clay products plants at Richland, Keota and Wellman, Iowa has been effected with the establishment of a new concern to be known as the Iowa Clay Products Co. The company has been capitalized at \$100,000. E. N. Jessen, of Wellman, is president of the company and W. S. Elton secretary and sales manager. Headquarters of the concern will be at Washington, Iowa. A number of the clay producers of the state are of the opinion that consolidations such as the one above mentioned are the solution of the problems now facing the small Iowa plants.

BUYING CLAY PRODUCTS COOPERATIVELY

It Appears That in Rural Districts Cooperative Buying of Clay Products Is to Become a Factor That Will Have to Be Reckoned With—How Do You View the Situation?

By Waldon Fawcett

MOST DISTINCTLY, the trend to cooperative buying is a factor to be reckoned with in the clay products industry, altho a number of tradesmen seem to be in no hurry to concede the fact nor to shape their policies accordingly. In truth, cooperative buying is already much more than a theory in certain sections of the clay products field. Ultimate consumers by the thousands are buying brick and tile, etc., by one arrangement or another that enables them to pool their purchases and plainly the disposition is to enlarge the scope of this particular kind of "collective bargaining."

It may be urged, in denial that there is any occasion for alarm over the sweep of cooperative buying, that the "craze" is confined, insofar as it applies to clay products, almost wholly to the rural districts. However, the farmers are such heavy purchasers of the products of the industry, and bid fair to so largely increase their demands as a result of the latter-day enthusiasm for silos, farm drainage, etc., that any influence that sways rural buying power must be taken into careful calculation even tho it were certain that it would never spread to the towns and cities.

IOWA COOPERATIVE CONCERNS HANDLE CLAY WARE

Even in the farming districts cooperative buying of clay products has not progressed to the points attained in the joint contracting for coal, feed, fertilizer, seeds, etc. However, it must be borne in mind that brick (which may be in demand at a given time by only one farmer in ten) is by no means so logical an objective in cooperation as fertilizer which all farmers require. The wonder is, when you consider the circumstances, that clay products have been included in cooperative schemes as extensively as they have. In a recent canvass of four hundred cooperative concerns in the state of Iowa it was found that 198 are selling tile and 105 are handling brick. Moreover, this is but a beginning, because many of the 400 cooperative organizations were formed primarily to market farm produce cooperatively and have not yet branched out into the selling end of the proposition.

Granted that cooperative buying of clay products by farmers is coming on a far larger scale and in a wider range of territory than at present, conjecture is naturally in order as to what will be the attitude of the industry with respect to this new element. It is a question which each clay products tradesman will be called upon to decide for himself according to his own lights and it is a foregone conclusion that the decision will not be the same in all cases. Certain it is, that the problems involved will not solve themselves

and to be lulled by that idea is to merely put off the evil day.

ADVANTAGES OF COOPERATIVE BUYING

To the manufacturer or producer of clay products who, whether his business be narrowly local in scope or of wider range, sells direct to ultimate consumers the general plan of cooperative buying by farmers has much to commend it. It enables him to make large deliveries or ship in carload lots, inasmuch as one of the tenets of the cooperative purchase plan is that participants shall accept delivery at a given time on their full season's requirements. Better yet, it confers the boon of a spot cash transaction which is in pleasant contrast to the demands often made by individual farmers for long credit. In return for these advantages the manufacturer must expect to face keen competition and he may be compelled, in order to land the business, to name a very close price.

The knotty portion of this cooperation problem confronts not the manufacturer or producer whose regular policy it is to sell direct but the firm that is wont to secure distribution for its products via dealers. These are the outlets that are to be hit, if any are, by the progress of cooperative buying. That such merchants are apprehensive is indicated by the fact that almost all small town retailers are strongly antagonistic to the whole idea of cooperative buying. They have raised their voices in protest wherever the United States Department of Agriculture has made any move in encouragement of cooperative buying by the agricultural public and they have individually and thru trade associations sought to bring all manner of pressure to bear upon manufacturers to dissuade them from selling to the cooperative institutions, no matter what inducements the latter may offer.

MANUFACTURERS MUST STATE THEIR STAND

Actions by the Federal Trade Commission have given summary warning to the merchants who resent the intrusion of the cooperative stores and societies that they must watch their step when tempted to indulge in anything savoring of coercion or boycott to shut off the supplies of the cooperative enterprises. What the menaced retailers hope to do, however, is to line up all manufacturers and producers for or against cooperative distribution. Manufacturers in the clay products field may expect steadily increasing insistence that each take an unequivocal stand so that country retailers will know just where to find him. It is going to be increasingly difficult for a manufacturer to carry water on both shoulders by putting out his product via regular or

established retail channels and at the same time supplying direct the demand of the cooperative institutions.

In a number of instances the cooperative organizations have insisted vigorously that they have no desire to put their local merchants out of business. This subject came before Congress a short time ago when the United States Bureau of Markets asked for an appropriation of \$15,000 for use in cooperative purchasing investigations "with a view to placing these activities on an adequate permanent basis." Charles J. Brand, Chief of the Bureau of Markets, when cross-examined by congressmen who are suspicious that the spread of cooperative buying will wreck the existing mercantile structure declared that it was not the purpose to put out of business "useful, efficient" middlemen.

FARMERS FAIL TO SEE RETAILER'S SITUATION

Right here is disclosed the colored gentleman in the wood-pile. A large share of the champions and promoters of cooperative buying insist that instead of establishing stores, yards and warehouses of their own or even having the bother of securing prompt unloading of carload consignments they would prefer to deal thru the local merchant if said merchant would consent to do business on "the right basis." This is where the rub comes. I know of cases where spokesmen for bands of farmers allied for cooperative buying have proposed to local merchants that they handle large transactions involving clay products on a five per cent. basis. Farmers are so unaccustomed to pay spot cash that evidently they over-estimate the premium that is warranted for quick cash. Similarly, they are not modest in the price concessions that they think should be made to them in consideration of making their own deliveries and calling for the goods immediately upon notification of arrival. On the other hand, many of the farmers, judging from the margin they would fain allow the retailer whom they propose to have act as their "agent," have little conception of modern costs of doing business and the overhead in the average retail establishment, however modest.

Luckily the local distributor of clay products, and likewise the manufacturer whose sales are confined to a limited local radius, can dodge one of the insidious influences which are upsetting to interests in other lines of trade. Reference is made to the instinctive desire on the part of many persons to make their purchases away from home. We are all familiar with the adage to the effect that far-way fields look green and there is no question that this impulse to

imagine an advantage in long-range buying is responsible in great measure for the success of the large mail-order houses. Fortunately, tho, this lure cannot function in the case of so bulky a product as brick or tile. Local preferences for brick colors and textures likewise tend to localize purchases, tho this last still leaves open the question of whether the local producer should or should not make price concessions for cooperative purchases.

INDUCEMENTS OF COOPERATIVE BUYING

The exponents of cooperative purchase of brick, tile, etc., are growing wise to all the various means to further their cause and they have lately trotted forward another potent inducement calculated to persuade the clay products man who is not at first inclined to sell them or at least to lower prices to suit them. This latest inducement is the early order or out-of-season order. The proposal of the cooperative buyer who employs this instrument is that his interest will place its order and, in many an instance, will accept delivery, at a time when trade in the line is slack or when production plants would have few demands upon them. In short, the theory is the familiar one that a tradesman can afford to shave prices to move surplus stock or consent to operate on a narrow margin of profit in order to keep his plant in operation and preserve his organization intact.

Tradesmen in all lines who dislike the thought of cooperative buying are wont to reassure themselves with the knowledge that failure has, in years gone by, crowned a large proportion of the attempts to establish cooperative stores. However, in all candor be it observed that these past performances in the cities and towns cannot safely be taken as a criterion of present-day outcome in the rural districts. All signs point to the creation in many localities of a new community spirit which the clay products manufacturer will have to take into account whatever his personal views are on the subject of cooperative merchandising. Thousands of cooperative organizations are operating in a dozen states in the Middle West and the Northwest. They were powerful enough to come within an ace of obtaining exemption from Federal taxes on their buying as well as on their selling operations and it is revealed that they are going to exert no small influence upon freight rates no matter whether the railroads remain under Government management or go back to private ownership. In short, cooperative buying is a live issue for clay products distributors and is likely to remain so for many moons.



NEW FIRE CLAY MINERS' ORGANIZATION HOLDS FIRST ANNUAL MEETING

THE FIRST ANNUAL MEETING of the Fire Clay Producers' Exchange, an organization which was perfected just recently, was held in Youngstown, Ohio, on Tuesday, March 4. The main business of this meeting was to perfect the organization, elect officers for the ensuing year and to shape the program of work to be done for the coming twelvemonth.

The object of the Fire Clay Producers' Exchange is to bring about better conditions in the industry thru the exchange of proper information regarding production, cost of production, selling prices and any other matters of interest to the members.

This same general plan is now being followed by a large

number of industries with considerable success and clay producers saw the advantages to be gained by becoming organized. It is expected that this association will put the clay business, at least in the district which is now included in the exchange, on a sound basis.

MEMBERSHIP OPEN TO ALL CLAY PRODUCERS

The membership of this organization consists of producers of fire clay used in the manufacture of fire brick and stoneware and does not include miners of the higher grade clays such as are used in the manufacture of white-ware bodies. It is quite reasonable to believe that the organization was suggested after having had the experience

with the recent War Service Committee of clay producers. This committee represented producers of all kinds of clay however, while the new organization just perfected, has in its membership miners of fire clay only. At the present time the membership is limited to producers in northern Ohio, western Pennsylvania and West Virginia but the exchange is open to any producer of fire clay in the United States.

There is no doubt but that there is a need for such an organization as this and it is quite certain that it will do much to build up the industry which it serves. While at the present time the membership does not include all clay producers, it is expected that it will not be very long before nearly all miners of fire clay will become members and a very strong organization formed.

HEADQUARTERS AT CLEVELAND

At the meeting held in Youngstown the following officers were elected: President, H. E. Stuhler, of the Dover Fire Brick Co., Cleveland, Ohio; vice-president, C. D. Tower, of the Mack Manufacturing Co., Wheeling, W. Va.; secretary-treasurer, D. S. Hunter, Cleveland, Ohio. The executive committee consists of C. A. Ballantyne, of the West Virginia Fire Clay Manufacturing Co., Pittsburgh, Pa., S. M. McClave, of the American Fire Clay & Products Co., Cleveland, Ohio, and L. W. Park, of the Brighton Clay Products Co., New Brighton, Pa.

The headquarters for the Fire Clay Producers' Exchange are at Cleveland, Ohio, in Room 855, Leader Building. D. S. Hunter, who is secretary of the exchange, has his offices there.



EASTERN CONSTRUCTION MARKET CHANGED *from* DEFIANCE *to* COMPLIANCE

WITHIN PRACTICALLY ONE WEEK the entire eastern construction market has changed from one of defiance to one of almost complete compliance, according to the Dow Service Daily Building reports of March 3.

Ten days ago the entire market, barring a few exceptions, represented by necessary construction work that, either by Government or trade compulsion, had to proceed regardless of price of materials or cost of erection, was following the policy of holding out for prices to drop still further. Today, with the building season advanced by favorable weather, astute owners and builders are rushing plans so as to get building projects started at once to anticipate high rents and a continuation of the favorable leasing season next autumn. The demand for stabilization of building materials has been met and the labor situation will probably be entirely cleared within a few days. They were the last two factors blocking the way to a free construction movement. Contractors counting upon a \$6.00 compromise wage rate for the carpenters are putting in estimates more freely, architects and investors now know that building material prices are, at their present levels, to be immediately accepted because just as soon as the demand becomes anything like normal, forward buying will be limited by the ability of the manufacturers to meet it with available materials.

ORDERS PLACED REGARDLESS OF PRICE

An instance of this is shown by the fact that a dealer placed an order for common brick last week for \$16 a thousand, wholesale, altho he could have gone up the river and bought all the brick he wanted at \$15. The purchaser took 500,000 at the dollar advance, "to make sure that the brick actually would be delivered." There was a lumber deal closed Saturday morning for a vast building project at a price above the market level for the same reason, by an entirely different interest from the one purchasing the brick. The best grade of common brick will be sold on Monday in this market for not less than \$16.50 by one concern, at least, and on the same day quotations for this commodity at Atlantic City will be \$22; Canton, O., \$16.75; Epping, N. H., \$18; San Antonio, Texas, \$14.75; St. Joseph, Mo., \$16; Belleville, Ill., \$17; and Decatur, Ill., \$15. In Portland cement manufacturing districts the expected drop in prices will not occur because production is proceeding 45 per cent. below normal and some mills have closed down with little or no reserve stocks. Since Jan-

uary 1, manufacturing costs for this commodity have advanced greatly, and it has just been ascertained that road building programs of states will require 56,000,000 barrels of Portland cement during the next two years with an annual output of only 93,000,000 barrels despite a building construction program for the nation about three times greater than normal with a potential export demand still to conjure with as a further drain upon the country's cement producing capacity.

MANUFACTURING COSTS WILL NOT BE LOWER

The effect of the low price argument has been discounted by practical builders and owners with an eye to the autumn renting season requiring completed buildings instead of blueprints and projects. No building material manufacturer, whether he operates a lumber mill in Oregon or a brick plant on the Hudson River can tell what his manufacturing costs this year will be and the banks of the country, with a Liberty Loan campaign ahead are taking the attitude that "working capital" will not be available to building material manufacturers unless they have liquid assets in the form of accounts collectible rather than stock on hand. In other words, building material manufacturers are face to face this year with the necessity of knowing their costs down to the last cent and if costs are uncertain, so also will be the market prices. It is an accepted fact that manufacturing cost will not be lower, especially as to wages, this season, and that fact will be proportionately reflected in the actual selling prices of all commodities, with the possible exception of steel. Even in that commodity the expected price reduction will not be as great as had been expected and whatever reduction there is will be announced sometime before April 1, likely around March 15, if not earlier, so as to give the manufacturers an opportunity to "feel" the building market. The fact that fuel can be purchased today for 40 cents a ton cheaper than it can be contracted for is the best proof of the cost situation as applied by analysis to the future cost of building materials.

LABOR MORE EFFICIENT NOW

Another factor in favor of building construction is that of greater efficiency of labor. A large concrete construction company recently made a test of a cubic yard of concrete made last week with an identical cubic yard laid under Government contract conditions in November before

the armistice was signed. With the same cost of materials the cost was reduced 80 per cent. because of the greater competition among laborers to get and hold a job today as compared with early November conditions. An identical cubic yard of concrete compared as between November 8 and January 1 showed only a 30 per cent lowering of cost attributable to greater labor efficiency.

With the increasing competition for jobs among building artisans apparent in almost every trade and the disposition of private contractors to get their projects going before the state and nation come into the market for large quantities of materials, thereby benefiting from the present base prices the building season is approximately 5 per cent. underway as of March 1, taking 1916 as a comparison, and if the labor difficulties can be smoothed out by March 15, when the building season formally opens, a market 20 per cent. of normal will be under way with a maximum limited only by the ability of the building material manufacturer to meet the demand.



A Newspaper Ad With a "Kick"

"Building for the Future," is the title of a page advertisement in a Syracuse, N. Y. newspaper, inserted by ten dealers in various kinds of building materials. These firms carry this message to the people of Syracuse:

"America—great big powerful America—is in the throes of a rebuilding era that is without a counterpart in her

Building for the Future

America—great, big, powerful America—is in the throes of a rebuilding era that is without a counterpart in her history. Uncle Sam has held a restraining hand on building activities for many long, weary months. But now—with peace, prosperity and happiness—the building idea comes with a great rush. It is the most important mission America has to consider. And whether it be a modest bungalow or a 16-story sky-scraper, all the materials that enter into it are now available. Long deferred plans will now be resurrected for immediate revision.

The home coming soldiers and sailors will help along in the reconstruction work; their brains and brawn—their sinew and strength will form an integral part of the intensive building program.

The following firms are ready to confer with you and explain their facilities; their judgment will help you solve your building problems—they are alert, resourceful and reliable.

<p>THE F. P. COLLINS PAINT CO., INC. 225 W. FAYETTE ST. PHONE WARREN 1011 THE HOME OF LAWRENCE PAINTS AND PRISTINE LAMBERT VARNISHES</p> <p>DAWSON BROTHERS GENERAL CONTRACTORS</p> <p>MANN & HUNTER LUMBER CO. LUMBER, SASH, DOORS AND INTERIOR TRIM</p>	<p>WILSON & GREENE LUMBER CO. LUMBER AND GENERAL MILL WORK</p> <p>PATTEN CUT STONE CO., INC. CUT ST. NE, CURBING AND BUILDING STONE</p> <p>THE MARKERT MFG. CO. SASH, DOORS, INTERIOR WOODWORK</p> <p>CUMMINS BRICK AND TILE CO. BUILD WITH BRICK AND BE SATISFIED S. T. A. K. BUILDING SYRACUSE, N. Y.</p>	<p>CONDUIT MILLER CO., INC. LIGHTING FIXTURES, ELECTRICAL CONTRACTING, REPAIRS</p> <p>JOHN H. LYONS, INC. LUMBER, INTERIOR AND EXTERIOR WOOD- WORK. ALMOST ANYTHING MADE OF WOOD</p> <p>STEARNS & HOLMES MARBLE, TILE AND SLATE CONTRACTORS</p>
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This Advertisement Occupied Page Space in a Syracuse Daily Newspaper.

history. Uncle Sam has held a restraining hand on building for many long, weary months. But now—with peace, prosperity and happiness—the building idea comes with a great rush. It is the most important mission America has to consider. And whether it be a modest bunga-

low or a sixteen story sky-scraper, all the materials that enter it are now available. Long deferred plans will now be resurrected for immediate revision.

"The home coming soldiers and sailors will help along in the reconstruction work; their brains and brawn—their sinew and strength will form an integral part of the intensive building program.

"The following firms are ready to confer with you and explain their facilities; their judgment will help you solve your building problems—they are alert, resourceful and reliable."

The advertisement is signed by the Cummins Brick & Tile Co.; the F. P. Collins Paint Co.; Dawson Brothers, contractors and builders; the Mann & Hunter Lumber Co., dealers in supplies; Wilson and Greene Lumber Co.; the Pattern Cut Stone Co. Inc., The Marjet Manufacturing Co., makers of sashes, door and interior woodwork, the Conduit Miller Co., lighting fixtures, the John H. Lyons Co.; and Stearns & Holmes, marble, tile and slate contractors.



Paving Bids in Northern Ohio Wait on Lower Material Prices

Considerable disappointment is manifested by paving contracting and material interests in the Northern Ohio district over the announcement of city officials of Cleveland, Ohio, that contracts totalling \$400,000 must be held up awaiting lower prices for material. The claim, in rejecting bids, was that these were excessive estimates, and that the work cannot proceed until material prices are reduced. This assertion is excepted by paving material interests, particularly paving brick manufacturers here, probably because brick road construction in Cleveland and vicinity is in the larger proportion. The exception is taken because it is claimed that the material itself is not higher by a rough average of more than 15 per cent., against tremendous costs for labor that is necessary to use the material for its ultimate purpose.

Claims of city officials, however, are to the effect that they are not opposed to promoting the paving work of the city, but that prices must be lowered before they can proceed. It is pointed out that in bids recently received they are an average of 30 per cent. higher than last year, which figures were an average of 50 per cent. higher than the engineers' estimates, which were two years old.

Another angle of the paving situation here, which has long been pending in this vicinity, has taken definite shape in the establishment of a large scale in the outskirts of Cleveland to the west, to weigh loaded trucks entering the city. The scale will be in charge of motor cycle police attached to the state road commission. Paving material interests are inclined to look askance at the move, as it is considered something of a blackhanded method of dealing with the preservation of the roads. Under present specifications, in the opinion of officials of the National Paving Brick Manufacturers Association, 14 tons is the maximum load for trucks if a reasonable weight is to be considered.



The Cannellton (Ind.) Sewer Pipe Co., in conjunction with the Louisville (Ky.) Builders' Supply Co., had a display of its products in the exhibition hall on the tenth floor of the Tyler Hotel, during the annual convention of the Kentucky Retail Hardware and Implement Dealers' Association February 27 and 28. About two hundred dealers were present at the convention, and were found to be in a generally optimistic frame of mind.

COST *of* LIVING USED *as* WAGE SCALE BASE

*Brick Manufacturer Uses Unique Method to Arrive
at Fair Compensation for Labor at His Plant*

IT IS A PLEASURE to chronicle a new wage scale that has just been put into operation by one of the most progressive brick companies of the country. Unfortunately, the name of the company cannot be mentioned, but it is permissible to give the plan in detail.

It is a matter of common knowledge that wages seem abnormally high, and if the old rates are still to be considered normal, sooner or later there must be a reduction. To effect this reduction with the least possible friction is a question before every employer in the country today, very little will increase socialism, anarchy and bolshevism as much as a wholesale cut in wages unless the workmen understand why it is done. If a man is receiving \$3 per day and it takes almost every cent to support his family, he will resent a reduction to \$2.70 unless at that exact time his cost of living also drops in the same proportion. Even if his cost of living has been dropping for several months, and may continue to drop for several more, he will object to the reduction in wages.

COMMITTEE VISITS LOCAL STORE

The company in question has adopted a sliding scale dependent entirely on the cost of living, whether that be up or down. On January 1, 1919, a committee of five, three from the workmen, and two from the company, visited five stores in the city where the plants are located and inquired the prices of the following commodities:

100 lbs. flour,	2 bushels of potatoes,
10 lbs. sugar,	2 bushels of coal,
20 lbs. corn meal,	1 dozen cans of canned goods,
10 lbs. bacon,	8 lbs. coffee,
20 lbs. beef,	2 pairs shoes.
10 lbs. lard,	

In each case a standard brand was adopted and in all future calculations, as explained below, the same brand is to be used. It was the desire of the company to list the cost of clothing in the agreement, but on account of the fact that it is hard to standardize the cost of suits, hats, underwear, etc., the item of the cost of shoes is the only one representative of wearing apparel.

At the same time a piece rate or hour rate was set for every job around the plants, piece work being used wherever possible.

ANOTHER VISIT TO BE MADE APRIL 1

On April 1, 1919, the committee will visit the same stores and inquire the prices of the same commodities and the same quantity. If the aggregate prices have reduced more than five per cent. the wages for the ensuing quarter shall be five per cent. lower than in the preceding quarter. The company herein inserted a provision that, no matter how much the prices would drop in any one quarter, wages could not be reduced more than five per cent. for that quarter. If the change in prices from one quarter to the

next does not amount to five per cent., there is to be no change in rates.

If the agreement stopped there, it would seem one sided, and might lead to complications and trouble. The old claim that capital was trying to browbeat labor into a reduction in wages might easily be used. To obviate this, the company, recognizing that no one knows whether the cost of living is going to increase or decrease, arranged that wherever provision was made for a reduction in wages due to the cost of the various quantities of the commodities, an identical provision has been made for increasing wages. If the prices go up or down more than five per cent. in any three months period, the wages are increased or decreased five per cent.

ARRANGEMENT BELIEVED TO BE FAIR

There can be no fairer wage scale adopted than one arranged somewhat along these lines. The average laborer is reasonable enough to realize that he really receives the same wage under the plan outlined. He knows that the results of his labor will enable him to buy the identical necessities of life from one year to the next, no matter whether the prices are high or low.

One of the advantages of an agreement of this kind, is that a good man will be more satisfied with his job and work. He will turn a deaf ear to rumors of higher wages for temporary jobs. As a result his mind will be centered on his work. Of course, the quality of the product will be raised. Moreover, the labor turnover, a cause of expense to every clay worker, will be reduced and kept at a minimum. The most far reaching effect, however, will be that it will hamper the spread of bolshevism.



Eight Hour Work Day Proves Big Success at Clay Products Co. Plant

The Clay Products Co., of Brazil, Ind., by agreement with the Clay Products Employees' Association, has adopted the eight-hour work day. Charles F. Shannon, secretary of the company, in referring to this new arrangement, states:

"The plan which we have adopted to enable our men to have an eight hour work day is what would be properly known as 'Contract Work.' That is to say, that our employees contract to do a certain amount of work for a certain amount of pay. The basis for this arrangement was a careful study of our cost records for a considerable period, disclosing information which showed that a certain number of men in each department had done a certain amount of work, in the usual working time of nine hours per day at a certain rate per hour.

"With the trend of the times, our employees naturally sought an eight hour day. The number of hours that they worked

was not material to us if they would produce a satisfactory tonnage over a period of six days, and we so stated to the employes, setting out that if in each department a satisfactory tonnage was produced (this tonnage as stated was determined by our experience over a considerable period) they would be paid for that work on a basis of a nine hour day, whether they did it in five hours or nine hours. The result, of course, was that the men delivered their tonnage within eight hours and frequently in slightly less than eight hours, altho it occasionally happened that weather conditions or breakdowns in equipment required more than an eight hour day to complete the tonnage which is necessary for them to produce for the day, or for the period.

"The association of our employes has been in existence for several years. Every employe of the Clay Products Co. is a member of this association and pays a nominal initiation fee and dues. The object of the organization on the part of the men is to pay benefits in case of sickness or death and gives them an opportunity to have various committees to look after their welfare. There is also a Grievance Committee which takes up differences with the company if a man is unable to adjust his demands or differences with the superintendent of the plants.

"We have found this association helpful to us in warding off the evil influence of foreign organizations. Our employes generally feel that they have in their own little group all the benefits that they would derive from an outside organization, with the added advantage of being able to control their own funds and apply them to the needs and the benefit of a small association of men generally all known to each other."

If any of our readers are interested in further details of this eight hour plan, the Clay Products Co. will be glad to furnish same, believing that other clay manufacturers might find the system worthy of adoption in their plants.

* * *

New Highway Work—and Brick

In all parts of the country—east, north, south and west—consideration is now being given to the construction of new roads and highways. In many states, the legislatures, now in session, are arranging suitable appropriations for forthcoming paving projects, while county and city officials are equally active in the adoption of measures to provide funds for this purpose. Many of these roads will be of brick construction—in fact, it is safe to assume that with the coming of spring and the placing of this work under way in different sections, hundreds of miles of vitrified brick-paved streets and highways will be laid. The paving brick manufacturer seems about to come into his own, after many months of great inactivity.

There is no road more satisfactory than the properly constructed brick highway. Streets of this type have many features of excellence to commend them for different phases of service—they are permanent and durable, with ability to withstand modern heavy motor truck and similarly heavy excessive and constant traffic; they require but a minimum amount of repair and attention, and make for a wise and conservative investment. It is for this reason that the vitrified brick road is now specified so often when street improvements are being considered and unquestionably, this type of paving, when once fully appreciated, will grow rapidly in favor in sections where heretofore it may not have been much in use. Many municipalities that *do know* the advantage and economies of the brick-paved street thru actual experience, will continue improvements with this material. And they are exercising good judgment in doing so.

Taking the East as an example of some of the new

road work to be undertaken, the Essex County Board of Freeholders, Newark, N. J., is arranging a fund of \$605,000 for street and highway improvements. In Pennsylvania, a bill has been introduced in the state Senate to make available an amount of \$13,678,730 of the \$50,000,000 road bond issue for the building of new highways, mention of which was made in a recent issue of *Brick and Clay Record*; of this fund, \$6,000,000 will be employed for permanent state roads, \$3,000,000 as state aid for the construction of highways by counties and municipalities, and the balance for maintenance and repairs.

The Board of Trade, Rockaway, L. I., New York, is planning for the construction of a cross-way boulevard from Rockaway Beach to Woodhaven, to cost about \$700,000. At Rochester, various appropriations have been made for street work, including a fund of \$19,500 for the improvement of Jones Street with vitrified brick pavement. A bill has been introduced in the Massachusetts Legislature for a fund of \$40,000 to cover the building of a road from Dudley to the Connecticut state line.

In West Virginia, to speak of the South, a resolution is now before the legislature for a special election thruout the state for a vote of the people on approval of a bond issue for \$50,000,000 for new road construction. In North Carolina, Virginia, Mississippi, Alabama and other states in this vicinity, projects for a vast number of new highways are now being planned, and many of these will call for brick as the preferred type of pavement. Texas bids fair to establish a record for new road work during the coming season, with bond issues now planned as follows: Tarrant County, \$2,500,000; Titus County, \$1,500,000; Lamar County, \$1,500,000; Cooke County, \$1,500,000; Clay County, \$1,500,000; Collin County, \$1,015,000; Rockwell County, \$500,000, and Kleberg County, \$350,000. The state of Tennessee will expend close to \$1,000,000 in new highways in 1919, in different counties.

* * *

C. J. Crawford Talks on Refractories to St. Louis Purchasing Agents

A large number of purchasing agents were in attendance at a meeting of the Purchasing Agents Association of St. Louis, on January 21.

The feature of the evening was an address by C. J. Crawford, president of the Missouri Refractories Co., on the subject of refractories. It was indeed a feature. In fact, it proved to be one of the most interesting and instructive meetings the association ever held. Mr. Crawford took up the line of refractories including first and second quality fire clay brick, silica, magnesite, chrome and bauxite brick. He prepared a table for the occasion of specimen brick and new materials, which helped greatly in demonstrating many points.

Mr. Crawford spoke extemporaneously and is a most convincing and earnest talker of very good address. He has a faculty for simplifying the many technical terms which are involved in the industry so that every one could understand and in this way gained the interest and attention of every one present. At the close of his address Mr. Crawford suggested he would be pleased to open the subject for general discussion if anyone present had any questions or problems in mind. At his suggestion the meeting at the instance of the president laid over other business and devoted the time to questioning Mr. Crawford, in reply to which he gave very quick and direct answers and explanations covering a very wide scope of subjects, all of which demonstrated his wonderful range of knowledge and information. Even after the

meeting many members gathered around him for further talk and lingered until the lights went out.

A rising vote of thanks was tendered Mr. Crawford for a most interesting and instructive evening.

* * *

Western Ontario Clay-Workers Hold Profitable Meeting

The annual convention of the Western Ontario Clay Workers' Association was held in London, February 18, 19 and 20. Officers were elected as follows: President, C. S. Parker, London; first vice president, Alfred Wehlann, Cairo; second vice president, Robert T. McDonald, Brigidon; secretary, Gilbert Armstrong, Fletcher; director, W. McCredie, Lyons.

At the opening session the delegates were welcomed by Mayor C. R. Somerville and President Harry Hayman of the London Builders' Exchange. W. McCredie replied.

The program included a report of the Joint Tile Committee by H. H. Hallatt, chairman, which was accepted; address on "Lubrication," by H. Ferguson, London; "Dryer Problems," by J. H. Ross, of E. M. Freese & Co.; "Peacetime Problems and the Outlook," by W. McCredie, and the "Coal Situation," by Charles Martin. Mr. Ferguson of the Ontario Agricultural Department gave a paper on under-drainage.

* * *

New Government Bulletin Discusses Drainage Methods and Foundations for County Roads

The first essential feature of an improved road is adequate drainage, and another prime requirement, wherever a hard surface road is to be constructed, is a firm foundation. These facts are emphasized in Bulletin 724, "Drainage Methods and Foundations for County Roads," just issued as a professional paper by the Bureau of Public Roads, United States Department of Agriculture.

The purpose of the bulletin is to supply information concerning the proper methods of draining road beds constructed of various kinds of soil, and under different topographical conditions, and also to explain how foundations may be designed to suit the soil conditions, the road surface and the system of drainage.

Some of the topics treated in the bulletin are primary soils, drainage, design of surface drainage, gutters, drop inlets and catch basins, subdrainage, foundations and specifications.

* * *

Strong Advocate of Ceramic Organizations

August Staudt, president of the Perth Amboy (N. J.) Tile Works, whose likeness appears on this page, is a strong believer in ceramic organizations, and has taken a prominent part in the two leading societies in this industry in the state. At the recent annual meeting of the New Jersey Clay Workers' Association (reported in the issue of December 31 of *Brick and Clay Record*) Mr. Staudt retired as the president of this body after having served in this capacity for two consecutive years; these years, encompassing war times, probably were the most trying and exacting in the history of this progressive organization, and the advancement accomplished in these twenty-four months stands well to his credit. At the recent meeting of the New Jersey Clay Miners' and Manufacturers' Association (set forth in the February 11 issue

of *Brick and Clay Record*) he was elected treasurer of this society for the third consecutive yearly term. Mr. Staudt has also been active in the work of the American Ceramic Society in local districts, recently becoming an active member of this association, advancing from the grade of associate. In speaking of ceramic societies and their value and ensuing benefits to members who take an earnest and enthusiastic part in their work, Mr. Staudt said:

"I am a great believer in organized opportunity for discussion of all problems that may arise either in the clay mining or clay manufacturing fields, and many are the benefits which I have received as a result of the coöperation offered by the three societies with which I am actively affiliated. In all of these organizations I have been greatly interested for many years, and have received unusual, as well as unsought-for rewards, for my activity. Without a doubt, to these societies the ceramic industries are much indebted either directly or indirectly



AUGUST STAUDT

for that which has made them successful in keeping abreast with commercial demands. For this reason I believe that it should be the duty of any person, firm or corporation to contribute to the support of organizations of this nature by becoming a member of one of more and actively participating in the different branches of the work."

* * *

Washington Building Tile Office Closed

H. S. Brightly, engineer for the War Service Committee on Hollow Building Tile, advises that the office at 631 Pennsylvania Ave., N. W., Washington, D. C., closed on March 1, and that any communications designed to reach this office should be sent to the Hollow Building Tile Association, 1409 Conway Building, Chicago.

* * *

The Jefferson Brick Supply Co., Birmingham, Ala., has increased its capital stock from \$3,000 to \$10,000.

“OVER *the* TOP” *in the* BRICK BUSINESS

*Cooperation and Coordination—the Keynote of This Address—
Will Bring a Large Volume of Business to the Brick Man in
1919 If He Follows the Leadership of “General Square Deal”*

By Charles H. Bryan

*of the Mercier-Bryan-Larkins Brick Co., Detroit, Mich. Read at the Thirty-third
Annual Meeting of the National Brick Manufacturers Association,
Pittsburgh, Pa., February 5 to 7, 1919*

IT IS IDLE for me to try to convey to you the real feeling of our boys on the Western Front when they received the command “over the top,” for from this came the phrase.

Allow your minds to go back, for a few months, when we were talking in subdued tones as to the happenings on the other side, hardly daring to hope for good news; with this feeling at home, can you imagine the feeling of our boys as they stood in the trenches with shells bursting over them, machine guns dealing death on every hand and the blood-thirsty, unmerciful, uncivilized savage, “the Hun,” approaching? Even now, when the armistice has been signed, my heart stops for a moment when I realize the awfulness of what “over the top” means.

In what respect did the brick manufacturers back up the boys and what were we doing in support of the Government? As I recall, we had some very successful years before the war. With the declaration of war came the order to discontinue operations and to curtail building, followed, very closely, with a fifty per cent. fuel allotment, and lastly, no building except upon permit from the War Industries Board. It is needless for me to tell you what effect this had on brick manufacturers—you know. Did you hear one complaint from any brick manufacturer? No. They stood like a Stonewall Jackson backing up the Government, with what means they had at hand, even to the extent that our only sons entered and offered themselves for the supreme sacrifice.

BRICK MEN WILL SOON GO “OVER THE TOP”

Now that our trenches (figuratively speaking) are filled with brick, the order will soon be given “over the top.” As I have stated before, that command was coined on the introduction of trench warfare. The command “over the top” found our boys well trained and moving with uniform regularity. In this same respect now, how are the brick manufacturers going to go “over the top?” Are we going to try it as an unorganized mob, or are we going about it in a systematic, well organized manner, so that when the command is given, instead of a mob, I hope our competitors in the building industry will find us well organized and under the able leadership of “General Square Deal.”

In order that we may make a successful charge, it is necessary that we make a minute inspection of ourselves, that we may be fit for the job, ever remembering that our leader is General Square Deal, and it is very important that at no time should we forget the meaning of square dealing—for it is my opinion that this is the most important factor that will put us “over the top.” The other assets that enter into the support of our columns are *quality* and *service*. QUALITY must be maintained—SERVICE guaranteed.

Thus, we may inspire confidence in those who deal with us, thereby receiving the moral support of our friends.

WILL YOU STAND INSPECTION?

You, as a brick manufacturer, must stand inspection, just as our boys did when we sent the cream of young American manhood to the front. And if you are possessed of the qualifications of square dealing, quality and confidence, then identify yourself with some organization for the betterment of the brick industry. When I say “brick” I mean clay brick of what-so-ever kind or nature, because in organized effort lies success. As to whether the organization is local or national, you personally are the best judge (I believe in both). In any event, affiliate and become a co-worker in the grand organized effort that is to be put across this year and place on the map in the building world the name “BRICK” with the positive assurance that clay brick is the best building material in the world—on top of the ground or underneath.

I presume many of you are aware that we have organized a Common Brick Manufacturers’ Association of America, and are going to hold our convention in Chicago on the 12th of February, and as an officer of this organization I invite every common brick manufacturer in America to become a member, and I want to make it just as positive as possible that this organization in no way conflicts with the National Brick Manufacturers’ Association, but is organized solely for the interest of COMMON BRICK. And even tho some of you question the advisability of this organization, it little behooves the least of us to say anything about the rest of us, and would it not be infinitely better for us to all pull together for the common good of all clay brick manufacturers?

Now, then, all together for "over the top" in 1919. A splendid organized effort. The morale unaffected and supreme confidence in ourselves as the ultimate result.

* * *

N. J. Clay Men to Lend Financial Aid to Apprentices at Ceramic Schools

The Executive Committee of the New Jersey Clay Workers' Association held an important meeting at Trenton, on January 25, with a good majority of the different officials of the organization in attendance, including Charles Howell Cook, president of the association; Abel Hansen, vice-president; George H. Brown, secretary-treasurer; and Charles A. Bloomfield, E. C. Stover, R. H. Minton, Hubert Somers, George E. Hoffman, Samuel Bedson, Andrew Foltz, August Staudt, Fred A. Whitaker and Everett Townsend. A dinner was given to those present at Hildebrecht's Restaurant.

The entire committee entered heartily into the different subjects up for discussion, bringing about a definite decision in a number of important matters. It was decided to make a drive for new members during the next few months, with aim to double the present enrollment of 200 members in different parts of the state. Districts were arranged and allotted to those composing the Membership Committee appointed at the last meeting of the association held at Rutgers College, New Brunswick, in December. These different districts of the state will be thoroly canvassed for new additions to the membership. Andrew Foltz will act as chairman of the Membership Committee.

Preliminary steps were taken to enlist the more active support of the manufacturers of ceramic products thruout the state in the ceramic schools in this district. It is hoped to inspire an enthusiastic and substantial assistance in this movement, which has for its direct aim an increase in the number of students at the schools, particularly in the Ceramic Department at Rutgers College. Those present pledged their hearty support and cooperation to the plan, with expressed willingness to lend financial aid to one or more students at the school. In this connection, it is contemplated that the different manufacturers interested will select a promising apprentice from their establishments and arrange to have these young men derive the advantage of a course of study in ceramics at the college, defraying their expenses while at the school and also allowing suitable compensation during the period. By this means it is hoped to have nine, ten or more students actively engaged in this manner at an early date. Moreover with this display of concrete interest and support, it is expected to approach the State Legislature with request for a suitable appropriation for a new ceramic building at the college.

Considerable attention was given to the forthcoming meeting of the association at Trenton, as in years previous this to be the regular mid-summer meeting of the organization. It is planned to hold this gathering in June, and it is probable that a two-day program will be arranged, the first to be devoted to the regular business and a technical program, and the second visiting some of the potteries and other important ceramic plants in this section. It is proposed to make this the most important of any mid-year meeting yet held, enlisting the interest and enthusiasm of all members in order that the greatest possible attendance will ensue. A committee was appointed with instructions to arrange definite plans for this gathering, composed of George E. Hoffman, Charles Howell Cook, Herbert Sinclair, E. C. Stover, A. M. Maddock, Abel Hansen, George H. Brown, Samuel Bedson, and R. K. Bowman.

The meeting was one of the most successful of any executive committee gathering, and as a unit the members present expressed great hopes for the bright future before the association. With the active interest and support of all members so much desired, and plans for affiliation with the American Ceramic Society, there is no question but what this state organization will grow, not only in volume of members, but in the advantages and benefits which membership affords. The personnel of the executive committee embraces many important figures in the clay-working industries of the state—men who are willing to give their time to the advancement of the association for the general benefit of the ceramic industries of New Jersey.

* * *

"Keep Times Good by Building Now"

The Los Angeles PRESSED Brick Co., Los Angeles, Cal., a firm believer in advertising, has recently been running some very timely "copy" in the daily newspapers of that city.

Reproduced here-with is an advertisement, occupying a space 12 in. by 4 in. wide, which appeared in the Los Angeles "Times" on February 9. This advertisement reads: "During the War it was Patriotic not to Build—'Now we can best show our Patriotism by Building'—'Keep Times Good by Building Now.'" The above posters have just been issued by the United States Department of Labor.—Los Angeles PRESSED Brick Co., 402-414 Frost Building, Los Angeles.

The slogans used on the posters recently issued by the United States Department of Labor are good "eye catchers" and can be used to advantage by clay products manufacturers in newspaper advertising, as demonstrated by this live Los Angeles concern.

"During the War it was Patriotic not to build"

"Now we can Best Show Our Patriotism by Building"

"KEEP TIMES GOOD BY BUILDING NOW"

The above posters have just been issued by the United States Department of Labor.

LOS ANGELES PRESSED BRICK CO.
402-414 Frost Bldg. Los Angeles

* * *

Four clay products plants in Macon, Ga., on the Ocmulgee River, are closed on account of the overflow of the river and about five hundred men are out of work as a result.

* * *

Citizens of Molalla, Ore., have donated a site of 32 acres adjoining the northwestern part of town, to the Molalla Fire Clay Co., on which will be erected a one-kiln pottery.

AMONG *the* POTTERIES

Labor Situation in Pottery Industry

All of last year there was a shortage in the labor situation, but matters have changed since the boys have been coming back home. Many vacant positions have been filled, and the manufacturers have been given an opportunity to select their employes, a proposition that has been long desired. It is no secret that some of the workers who were not called into the service were prone to give their best efforts and while they were willing to take the biggest wage offered, were not satisfied with giving their best efforts in return.

There has been no reduction in the pottery wage scale since the armistice was signed, nor is there likely to be any. The present working agreement between the workers and the manufacturers will prevail until October 1 next. The National Brotherhood of Operative Potters will hold their annual wage convention probably in Atlantic City in July, and then will follow a joint wage conference with committees representing the workers and the United States Potters' Association.

Some workers even now are looking forward to a revision in the wage scale, but if costs of materials reduce and business becomes lax then the workers will be bound to float along with the tide of other industries. However, it is generally believed that the wages of the pottery workers will never touch former lower levels, altho revisions here and there will be possible.

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A. C. S. Division of Help to Potters

Within a few weeks the whiteware division of the American Ceramic Society is expected to be organized. This proposition was given considerable consideration at the annual meeting of the American Ceramic Society, in Pittsburgh last month, and detailed work looking forward to organization has been progressing ever since. Charles Sebring, secretary of the Sebring (Ohio) Pottery Co. and president of the United States Potters' Association, is temporary president of the new division, while Charles F. Goodwin, secretary of the association is temporary secretary. Mr. Goodwin recently declared that the new division would be a great help to the domestic pottery manufacturers, and that in the past too little consideration has been given to the details of pottery manufacture by ceramists, in so far as the manufacturing of higher grades is concerned.

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Pottery Business Picking Up

General business in the domestic pottery branch of the ceramic industry shows a decided improvement within the last few weeks. During a portion of February there was a falling off in orders for current shipments, but since the first of the month new specifications have been very liberal. This indicates that stocks in the hands of retailers and jobbers are short, and that the retail demand has been active since the close of the holiday season.

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Bedford China Co. Starts Work

Four jiggers have been placed in operation and the fifth will soon be started at the new plant of the Bedford (Ohio) China Co., a plant which is said to be the "last word" in

domestic pottery construction. A general line of vitrified hotel ware is to be made at the Bedford plant. The employment of female labor will be one of the main objects of the company. Two continuous kilns have been erected and these will be fired immediately. Also, this will be the first general ware plant in eastern Ohio to make use of the continuous kiln, altho two have been in successful operation at the plant of the Jackson China Co., at DuBois, Pa., and others are being erected by the Sebring pottery interests at Sebring, Ohio. The latter have not been fired up to this time.

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Lack of Building Holds Back Trade

High freight rates on building materials has had a tendency to retard new building operations, and this has been reflected in the electric porcelain and sanitary branches of the pottery trade. There has been an inactive demand for electric porcelain items of late, while the sanitary branch of the trade has also been slow on the same account. If it was possible for builders to proceed along former lines, there would be no question about active building operations in different parts of the country. Then would follow increased activity for electric porcelain specialties and a greater demand for sanitary pottery items.

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It has been decided that the name of the Chelsea China Co., will be used in the operation of the seven kiln pottery at New Cumberland, W. Va., which was formerly operated under the name of the Clay Casting Co., of West Virginia. This property was recently acquired by Wheeling, W. Va., and East Liverpool, Ohio, interests. It was one of the first potteries built in that state, and its original name was the Chelsea Pottery Co. Various interests have had control of the property in the mean time, and some few years ago it was operated as an electric porcelain plant. Later New York and Ohio interests took over the pottery and started manufacturing cast products. This concern did not exist very long, and then came the Wheeling interests to take it over. Vitreous hotel and dinner-ware products will be made in this plant. New machinery is being installed. Continuous kilns are to be built, and operations are expected to start within the next two months.

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Costs of manufacturing pottery today are admitted to be higher than the records for the corresponding term of 1918. Imported clays are selling at new high levels, and ocean rates on imported English china clays are higher. Natural gas is selling at new high prices, in some instances as much as twenty-five per cent. more than a year ago. Cooperage costs are higher, and wages are also higher. Freight rates on raw materials are also higher than a year ago. Just how it is possible for ware to be manufactured at lower costs manufacturers cannot figure out. Yet, many buyers are of the opinion that if they hold back placing orders, the market will be lower. This condition applies not only to the domestic lines, but to the electric porcelain and sanitary branches of the trade as well.

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Indications are now that not less than a dozen new dinner shapes will be placed on the market next December for the January trade. On account of the war, the development of

dinner-ware lines was held up because of an order from the War Trade Board. Lines were reduced, in so far as the number of items manufactured are concerned, but now that the ban has been lifted, manufacturers are bent on giving buyers something new. Existing lines will have to be carried thruout the year, as in the January season dealers establish lines for the current year. Modelers are now working on several of these orders, and additional business will be placed with them during the next six weeks.

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The various potteries at Trenton, N. J., continue for the most part to operate at reduced capacities, particularly those devoted to the production of sanitary ware and electrical porcelain specialties. The present basis is between 50 and 60 per cent., and it is hoped to increase this at a reasonably early date, to be based, of course, on demand. The general ware potteries are keeping the output up to a good status, and there is no apparent reason in sight why this condition cannot continue. Quite a little is going on here and there in regard to plant betterment in anticipation of regular operations before many more months have passed.

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The Liberty China Co. is to be the name of the pottery plant just placed in operation at Lexington, Ohio, by J. F. Manor and other interests of East Liverpool, Ohio. The Lexington plant was built and operated in the first place as an electric porcelain plant. It has been idle for quite a time, and during the last fall the new interests took the property over and planned to make hotel ware, for which a terrific demand at the time existed. Those now interested in the company are experienced pottery operators, having been identified with the industry in various capacities for many years.

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During the last few weeks there has been quite an improvement in the freight situation, so far as the pottery districts in the Ohio Valley is concerned, and shipments are being made on practically normal schedules. Orders are going forward with more or less promptness, while nothing but delay and embargoes was the rule last year. While freight rates are higher buyers do not object so much to this as long as their orders go thru on regular schedules.

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The Mercer Pottery Co., Trenton, N. J., specializing in the manufacture of dinner and hotel ware, with works on Muirhead Avenue, is making alterations and improvements in its offices to improve the present facilities. The Trenton Fire Clay & Porcelain Co., and the J. L. Mott Co. are also engaged in different plant betterments, including improvements to roofs of buildings and other miscellaneous work.

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There is some talk of the establishment of a new vitrified china pottery in the vicinity of Chicago Heights, Ill., by Chicago interests. Hotel ware will be the principal product of this plant, should present plans mature.

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An additional bisque kiln has just been completed at the plant of the McNicol-Corns Pottery Co., at Wellsville, Ohio.

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With Our Canadian Friends

Toronto Brick Co., Ltd., Toronto, Ont., has been incorporated with a capital of \$40,000.

W. G. McCrimmon, 151 Hancock Avenue, West, Detroit, Mich., is interested in establishing a drain tile yard near Windsor, Ont.

The Interprovincial Brick Co., Cheltenham, Ont., is increasing the capacity of its plant by the addition of another brick press and new kilns.

R. T. McDonald, of McDonald Bros., Brigden, Ont., says that the new tile plant is working fine and he will soon be manufacturing "full blast."

Harry H. Hallatt has changed over his big plant at Tilbury, Ont., to use coal as fuel instead of natural gas. He predicts a big year's business.

Owing to potteries having their orders curtailed, the feldspar mines near Kingston, Ont., in Frontenac County, have been closed down until spring.

For the twelve months ending November 30, 1918, Canada imported brick, clay and tile valued at \$4,613,574. For the corresponding twelve months ending November 30, 1917, the imports were valued at \$3,913,327.

The Hamilton & Toronto Sewer Pipe Co., Hamilton, Ont., has let the contract for a \$25,000 addition, to the Canadian Engineering & Contracting Co., Hamilton. They also contemplate erecting an office building. Ryland H. New is president of the company.

O. T. Dudley, of the Dominion Fireproofing Co., Winnipeg, Man., skipped his rink to the championship in the Carter Cup curling competition, the main event of the Winnipeg Builders' Exchange tenth annual bonspiel, held in the Granite Rink, Winnipeg, from January 21 to 23.

The Conservation Commission has passed a resolution calling upon the Dominion and Ontario governments to give financial aid to Jack Miner, the well-known Kingsville tile manufacturer, to assist him in his work of protecting the Canada geese which visit his place at Kingsville, Ont., every spring.

It is of interest to note that in 1913 Winnipeg's building permits were over \$20,000,000. During the war years the permits were about \$2,000,000 so that the population was growing more rapidly than the housing accommodations. For each increase of one thousand people, there should be \$1,000,000 building permits. The present demand, and the return of the soldiers from overseas like a flood of immigration, should make a big demand for clay products in Western Canada in 1919.

News has been received of the death of Corp. William Pears in the military hospital at Epsom, Eng. He is the eldest son of Wm. Pears, Kelle St. Toronto, a former Mayor of West Toronto, and a well known Toronto brick manufacturer. He went overseas with the Fiftieth Battalion. He was wounded twice, first in August, 1916, and again in September, 1918. Corp. Pears was thirty-six years of age and before going overseas was associated with his father in the brick plant.

The Dominion Sewer Pipe Co., of which Thomas Kennedy is president, has been incorporated under the title of the Dominion Sewer Pipe & Clay Industries Ltd., with a capital of \$1,000,000. The head office is at Toronto. Plants are located at Aldershot and Swansea.

A. T. Alexander, secretary-treasurer of the National Brick Co., Laprairie, P. Q., has been elected chairman of the Montreal convention committee. The C. N. C. P. A. will hold their convention in Montreal, May 26, 27 and 28.

John S. McCannell, of the Milton Pressed Brick Co., Milton, Ont., left on February 3, on a business trip to New York. He will proceed to St. Petersburg, Florida, where he will spend the remainder of the winter.

Canadian Potters Ltd., St. Johns, has been federally incorporated with a capital of \$500,000.

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Building Activity in New York State

Building activity in New York State took a decided upward bound from December, 1918, to January, 1919. The increased expenditures for this period, as reported by the building departments of the first and second-class cities to the Bureau of Statistics of the New York State Industrial Commission, amounted to 123 per cent. The only cities who failed to share in this rise were Albany,

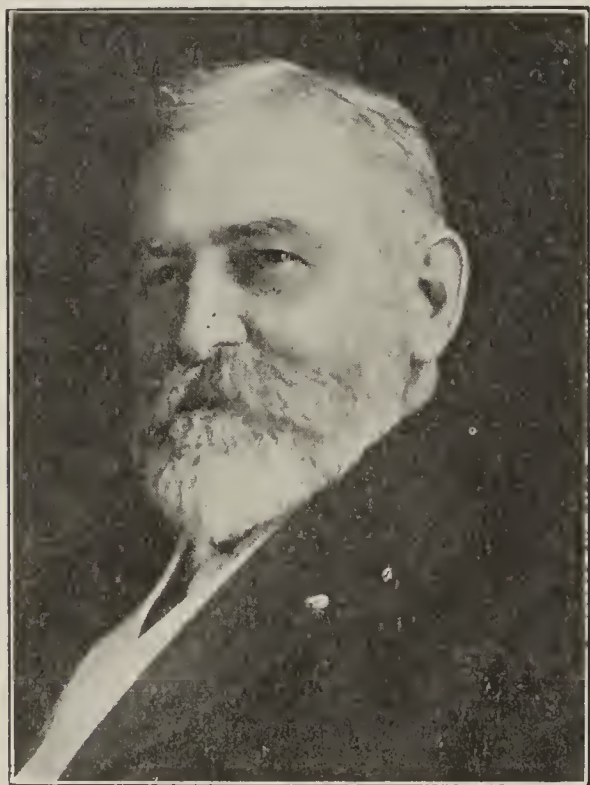
Troy and Utica where the amounts expended for building declined 20, 1 and 50 per cent., respectively. This is the first time there has been a decided indication of revival in building activities so early in the season, as this tendency is usually not manifest until March. The total amount reported for January was \$5,645,329 which is 9 per cent. less than a similar sum reported in January, 1918. Building costs reported in January, 1918, 1917 and 1916 were, respectively, 6, 12 and 15 millions of dollars. The Boroughs of Brooklyn and Queens, and the cities of Binghamton, Schenectady and Syracuse made larger expenditures for building in January, 1919, than in January, 1918. The Boroughs of Manhattan, Brooklyn, Bronx, Queens and Richmond, and the cities of Binghamton, Buffalo, Rochester, Schenectady, Syracuse and Yonkers reported larger expenditures in January, 1919, than in December, 1918.

* * *

Charles A. Bloomfield Seventy Years Young

To celebrate a seventieth birthday under ordinary circumstances may well be termed an unusual occasion, and to commemorate such an anniversary surrounded by friends and admirers to a total of over sixty strong—almost one for each year—is not only an unusual event, but a singular and remarkable occasion; it is one long to be remembered. Some of us grow old as the years advance, and others seem to have the faculty of growing young; the years do not weigh heavy, they are light; and the same activities that were pursued in time gone by are not only continued, but seemingly with added vim and energy.

And so it is with Charles A. Bloomfield, one of the prominent figures in the clay industry in New Jersey, who cele-



CHARLES A. BLOOMFIELD

brated his seventieth birthday at his historical home, known as Bloomfield Manor, Metuchen, N. J., on February 25. Mr. Bloomfield is head of the Bloomfield Clay Co., with large properties in this section, and has been instrumental in the formation and development of the New Jersey Clay Workers' Association, as well as the ceramic department at Rutgers College, New Brunswick.

Many well-known men in the ceramic industry, army officers, both of high and low rank, and acquaintances to large number, thronged the lower floor of this grand old home-stand on the eventful evening. There were crowds in the billiard room, in the library, music room and dining room thruout the hours of the reception, doing homage and credit to the host. Here and there, and admired by all, were evidences of what can be done with New Jersey clays—the fine open fireplaces, extending to the ceiling, sparkling with the burning of well-seasoned logs; bits of plastic clays used to advantage in this way or that, specimens of material for experimental work, pictures of representative gatherings of clay men adorning the walls—the environment was one to delight the ceramic worker and student.

The familiar hospitality of the host—it was ever there and never wanting. Congratulations, quite naturally, were in order from the beginning to end; they did credit to Mr. Bloomfield, and he to them. Everyone was there to enjoy himself, there was no formality.

As the evening wore on, Mr. Bloomfield and the guests were called to assemble in one of the rooms and here, to the astonishment of the host, a handsome and unusual loving cup was presented by those stationed at the Raritan Arsenal, and with which Government enterprise, Mr. Bloomfield has had much to do, as noted in a previous issue of *Brick and Clay Record*. A well selected presentation speech was made by Lieutenant-Colonel J. M. N. Andrews, the officer in charge at the arsenal, and after the applause had died away, an equally interesting and pertinent reply to the honor so accorded was made by the recipient. The cup carries the inscription:

A Token to
CHARLES A. BLOOMFIELD
on his
Seventieth Anniversary,
February 25, 1919,
from the
Officers and friends
at
Raritan Arsenal,
U. S. A.

There were other features of divertisement during the evening, including the reading of a few poems pertinent to the occasion, and intermingled with the delightful refreshments, the time passed all too swiftly.

Among those in the ceramic industry to pay their respects to Mr. Bloomfield and enter into the spirit of the evening were:

August Staudt, president of the Perth Amboy Tile Works, Perth Amboy; Abel Hansen, president of Fords Porcelain Works, Perth Amboy; R. H. Minton and Fred A. Whitaker, General Ceramics Co., Keasbey; Professor George H. Brown, Rutgers College, New Brunswick; M. E. Gregory of Brick, Terra Cotta & Tile Co., Corning, N. Y.; John Pfeiffer, Henry Maurer & Sons, Perth Amboy; and LeRoy W. Allison, eastern representative of *Brick and Clay Record*.

* * *

One plant of the Poston Paving Brick Co., Crawfordsville, Ind., and two plants at Zanesville, Ohio, of the Burton-Townsend Co. and one at Ashtabula, Ohio, have become licensees of the Dunn Wire-Cut-Lug Brick Co., of Conneaut, and will engage in the manufacture of wire-cut-lug paving brick.

* * *

H. H. Hardinge, president of the Columbia-Panama Coal Co., of Chicago, Ill., and Manchester, Ky., is interested with others in the establishment of a brick plant in Manchester, Ky.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Common Brick Cost Figures

What does it cost to manufacture common brick? No one can answer this question in a manner that will apply to all parts of the country or to all conditions. However, altho the cost of making brick in Maine will differ from the cost of making brick in Arizona, nevertheless, it is always interesting to know just what it is costing some manufacturers to fabricate their product.

The figures given below represent the costs of a firm making common brick in Wisconsin. The figures for both the years 1917 and 1918 are given and it will be noted that an increase of more than fifty per cent. is shown. This represents an enormous increase for only one year's interval, but, nevertheless, the figures are taken from accurately kept records from a set of books installed by a prominent cost-keeping firm with offices located in Milwaukee.

The capacity of the plant was 750,000 brick during the years the figures represent and each item represents the cost per thousand brick.

	1918	1917
Wood	\$ 2.033	\$ 2.435
Coal	1.253	.....
Labor and Salaries	7.706	5.458
Engineer's Salary .....	.....	.107
Sundries	1.617	0.885
Taxes, Insurance and Interest	1.009	0.463
Horse Feed	1.074	0.537
Molding Sand	0.106	.....
Uncovering Clay Bank	0.01	.....
Clay Used Pro Rata	0.30	.....
Use of Land	0.28	.....
Wear and Tear	0.54	0.329
Special Salaries	0.013
Totals, Cost per M Brick	\$15.941	\$10.216

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Crushers for Breaking Hard Rock

The problem of crushing the hard quartzite rock which is used in the manufacture of silica brick, is one that requires considerable forethought if one is to employ the most economical and satisfactory equipment.

Clogging up of the crusher means loss of time and poor service. Some crushers have low capacity and use excess power; with other crushers there is met the trouble of frequent repairs. Since quartzite is an exceedingly hard rock it is impossible to obtain on the market a machine that does not present one of the above difficulties. However, some machines are better than others and in the case of crushing rock for the manufacture of silica brick a very good machine has been discovered in the use of a large number 7½ Austin crusher. This machine is of the type that has a cylindrical hopper in the center of which is supported a gyrating cone-shaped metal head with corrugated surface. The central cone is propelled from below by gearing and an eccentric arrangement which imparts to it the gyratory motion. This class of crusher has a greater capacity than the so-called "jaw-crusher." It requires a little more power to operate, is adjustable and also applicable to a larger range of rock material. The capacity of these crushing devices will vary from two to two hundred tons per hour, de-

pending upon the character of the rock. One manufacturer of refractories crushes a carload of quartzite rock in twenty minutes to a size varying from fine material to the size of an egg. The machine may be regulated to break as fine as three-eighths inch and as coarse as desired.

A common form of jaw crusher consists of two jaws, one of which is stationary and the other mounted to work on a pivot. The faces of the two jaws are set at an angle sloping towards each other at the bottom, thus forming a V-shaped hopper. The movable part is actuated by a low eccentric by the revolution of which the hopper is alternately narrowed and broadened above and the outlet somewhat enlarged. This back and forth motion of one side of the hopper allows the rock fragments to gradually progress downwards until they are fine enough to pass the exit opening. The size of the crushed material is dependent of course upon the size of the exit. In some machines this is adjustable.

Both classes of crushers are at the present time being used in the silica brick industry, but it seems that one firm which has tried out the gyrating type is of the opinion that this machine is better than the jaw crusher type. The cones, however, have had to be renewed about every three months, altho the capacity of the plant is very high.

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Avoid Vertical Belt Drives

The vertical belt drive has always been an undesirable mode of transmission and the only way such a drive can be run satisfactorily without keeping the belt drum string-tight is

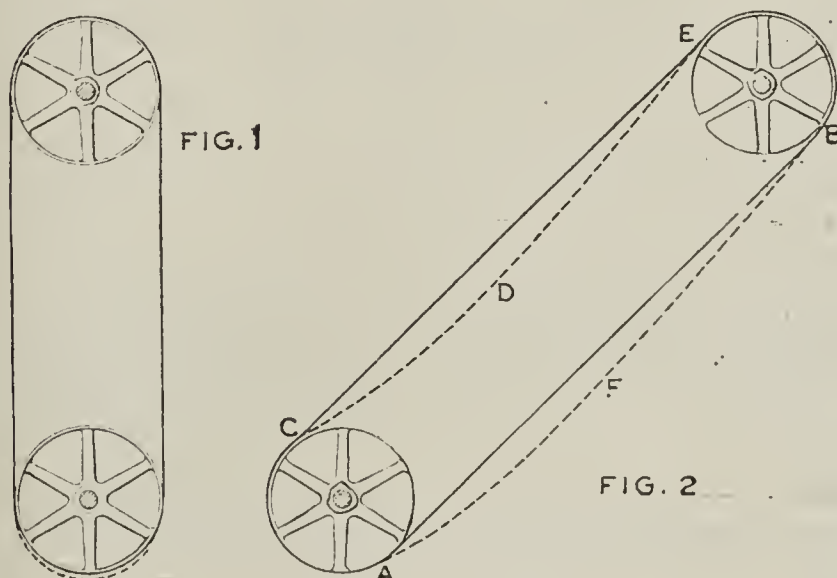


Fig. 1 Shows the Tendency of a Vertical Belt to "Hang Loose" from the Lower Pulley Resulting in a Great Deal of Slipping, While Fig. 2 Shows the Better Contact of Belt with Pulley When a Forty-Five Degree Drive is Had.

by the aid of an idler. Idlers, however, are disliked by most people.

When a belt is placed over a pair of pulleys, both sides of the belt may be assumed to have the same tension, but while

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transmitting power the belt stretches from greater tension on the driving or tight side, which immediately results in less tension on the slack side. When the sides are vertical, as in Fig. 1, the slackening may be sufficient to permit the belt to fall away from the lower pulley as indicated by the dotted line, or at least reduce the pressure and friction between the belt and the face of the lower pulley and this condition is aggravated by the weight of the belt.

When the belt is inclined as shown in Fig. 2, increase of tension on the driving side reduces the tension on the slack side. When the lower side AB is the driving or tight side, the slack side indicated by the dotted line CDE, becomes wrapped around more of the lower pulley; and when the upper side CE is the right side, the slack side assumes a position like AFB and remains wrapped around nearly as much of the lower pulley. In either case the belt remains supported by the lower pulley and there is assistance of the weight of the belt to produce pressure against the face of the lower pulley. Hence for the same initial tension a belt is capable of transmitting more power than when the drive is vertical.

* * *

Digging Clay and Shale

Human labor has its advantages, but the shrewd business man never depends on it when he can obtain mechanical devices to do his work because he knows that man power cannot compete on a cost basis, nor on a time basis, with mechanical means.

The old fashioned way of getting out clay and shale for brick and tile manufacture, etc., was with a laborer behind a pick and shovel. It was and is a slow and expensive method.

In war times, labor was scarce; it was costly. A brick maker that had been accustomed to using six men to pick down his normal clay supply could not get the six men. He was up against it.

A demonstrator from a powder manufacturer solved his problem. One man with dynamite threw down as much clay for loading in his wagons as a half dozen men had been able to pick down. There was a saving of time and labor—a saving in cost.

True, the war is over, but is that any reason for returning to extravagant pre-war practices? If labor and cost could be saved in war times by use of dynamite in clay pits, why not in peace times?

In developing this type of blasting several unexpected results have been obtained. Some pits were having much trouble in mixing the top and bottom strata and were losing trade thereby. Blasting down the face resulted not only in decreasing the cost of digging, but gave a better mixture of the clay than had been possible by the former methods. Hand digging had been followed.

In other pits the trouble was from loose boulders that seriously retarded the work. Blasting not only loosened the hard clay, but materially assisted in getting out the boulders and sending the clay to the plant in better shape.

Much good can be done in tempering some clays by blasting the impacted pits, when in a dry condition, well in advance of the need. This permits the absorption of much rain, lets the frost in deeper, and begins the process of tempering that is later finished in the mixer or pug.

Much clay is found over quicksand or other soft ground where difficulty is experienced in the upkeep of tracks for cars, or of roads for carts. Digging from above will largely

overcome these troubles as the cars or carts can then be handled on the surface instead of in the bottom of the pit. This substitution is made possible by drag-line or similar excavating rigs that work from above. When the clay is wet or soft, there is no difficulty in filling the buckets and working to full capacity. When the ground is hardened by drying out or freezing, it should be loosened with blasts such as have been described for stripping. Practical pit trials have proven the advantages of this method of digging.

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Reinforced Concrete Fuel-Oil Tanks

The scarcity and high cost of steel plate has resulted in concrete containers being used for fuel-oil tanks. T. McAvity & Son, Limited, St. John, N. B., contemplate the erection of a 3,000-gallon concrete tank. A larger one, for 40,000 gallons, has been completed at St. Catharines. The principal dimensions of the tank are, internal diameter, 32 feet, and internal depth, 8 feet. The roof slab is provided with three ribs, or beams, 4 inches by 12 inches, which rest on columns, 6 inches by 6 inches. The floor is 4 inches thick, increased to 6 inches under the wall, and 8 inches under the columns; the wall is 8 inches, and the room slab, 6 inches. The reinforcing was adapted to the material on hand, and, as there happened to be an adequate supply of 3/8-inch diameter rods on the premises, that size was largely adopted, otherwise a heavier rod might have been used, with spacing modified to suit. The floor slopes to a sump 18 inches square.

The tank has an earth covering of two and one-half feet, or two and one-half cubic foot per foot of area, which, at 100 pounds per cubic foot of material, say, makes a permanent dead load of 250 pounds per square foot, irrespective of any intermittent live load.

The concrete is made oil-tight by using a rich mixture worked into a homogeneous mass.—*Contracting and Engineering.*

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Clean Tile Outlets

More tiles get clogged up and rendered useless because the outlet is not taken care of than from any other cause, say the agricultural engineering extension men at Iowa State College. So as to prevent any trouble next spring, it would be a good thing to see that the tile outlets are cleaned up this fall.

The best way to handle an outlet is to build a small concrete bulkhead in which the end of the last tile can be set. This holds the tile firmly in place. The dirt around the entrance is not washed away and if the tile is a bit off the ground, it is not so likely to clog up the ditch.

The outlet away from the end of the tile should be swept clear of dirt, leaves or sticks that might cause the water to back up in the tile and stay. Such water will freeze and injure the tile.

Open ditches, too, should be cleared of leaves and rubbish at this time of year, also. If it is absolutely safe to do so, the open ditches should be burned out now so they will be ready to use early in the spring. Such openings as the ditches may need should be attended to at once with a spade or a plow. A single tiny fill in the ditch where the wagon or car crossed last summer may hold back enough water to keep the farmer out of the field for a week next spring.



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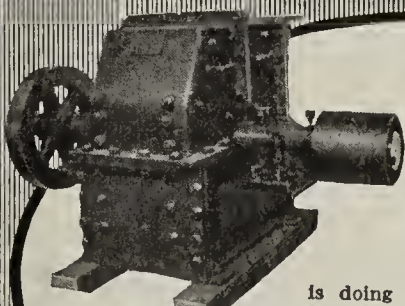
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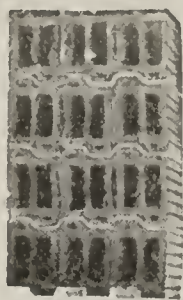
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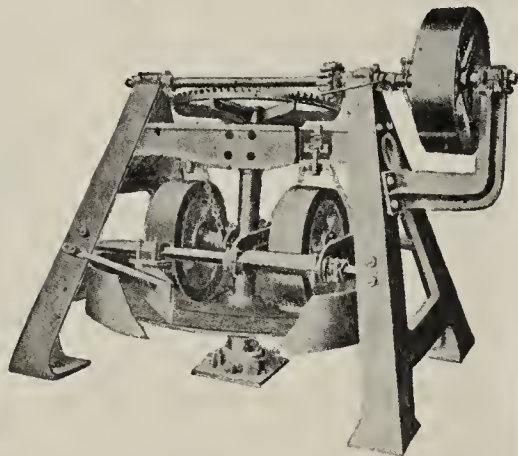
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a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Wants Binder for Refractory Clay

893. New York—One of our clay mines contains large quantities of very refractory clay. We have tried in vain to use this clay by grinding and repressing in a Berg press. We find, however, that the brick will not handle, but chip easily. Can any of your readers suggest something for a binder to harden the brick?

If it is your desire to continue to manufacture brick out of the refractory clay mentioned, by the dry press method, we would suggest that you add some other clay of a more plastic nature which will serve to hold the mass together.

If by adding another clay in this manner to obtain the results desired, you find that you do not obtain the desired color, you will have to resort to either one of the two following methods:

Add a cheap binder such as may be found on the market, perhaps glucose, molasses or water glass. It is also possible that by increasing the water content a little that you may obviate your difficulty.

There is another possibility that you do not burn your brick to a sufficiently high temperature to obtain a good sound brick. If your clay is too refractory so that it is hard to obtain the temperature desired, you can add a less refractory clay and in this manner obtain a better burned brick.

✻ ✻ ✻

Can Face Brick Be Burned in Up-Draft Kiln?

892. Michigan—Being just a beginner in the clay industry I thought I would enlist your aid in a few matters concerning the construction of an up-draft kiln for burning brick with coal.

Is it possible to build such a kiln and what materials would be required in its construction? Would it be possible to burn face brick in such a kiln?

Is there any chemical that could be mixed with clay to produce a darker color to red burning clay?

How large a kiln of the above-mentioned type would be required to give a capacity of 15,000 brick per day?

It certainly is possible to build an up-draft kiln for burning brick, but good face brick cannot be burned in this type of kiln. For burning a high grade face brick a round down-draft kiln has been found most satisfactory.

Up-draft kilns are of two types, temporary walls and permanent walls. In the case of the first type the brick are just set, allowing space for the fire arches and the sides of the kiln formed in this manner plastered up with mud so that no air or gases can escape thru the walls

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

In the case of the permanent wall kiln the two side walls are built up with common brick, allowing space for fire boxes or arches and then the brick are set between these two walls.

It might interest you to know how common brick are burned in Chicago. The burning is done in up-draft kilns, ten to thirty arches long. Thirty arches would hold one million six hundred thousand brick. The brick are set forty-eight courses high. The width of the kiln is about forty feet. The distance from center to center of arch is about fifty-two inches. If you are making fifteen thousand brick a day, the best plan is to set them up as they are completed and when you get a sufficient quantity to fill up your kiln, burn them.

The plants that are your size that manufacture common brick usually have a kiln about fifty feet long. Fire boxes may be spaced about five feet apart.

Before constructing a kiln, we believe that it would be a profitable investment for you to visit some money-making clay plant in your vicinity and investigate construction features of that particular plant. In fact, we believe that this way of obtaining information is ever so much better than anything anybody can tell you or anything that you can read from books. Plant conditions govern the choice of a great deal of the equipment and no one knows better than yourself the exact conditions that exist in your yard.

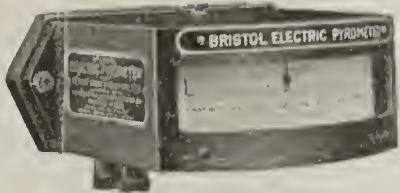
In regard to producing a dark color on a red burning clay, this may be accomplished by flashing the ware, that is, burning under reducing conditions. Some clay plants throw tar or pitch into the fire boxes towards the end of the burn and in this manner obtain a black or nearly black face brick. We know of no one adding a chemical directly to the clay to produce a dark colored brick.

The LETTER BOX

A Place Wherein Letters That Have General Interest Are Published and Commented Upon

Never Too "Smart" to Learn

It is exceedingly refreshing to hear from an old friend, particularly one who has been thru the vicissitudes of a career extending over a number of years in the clayworking business. C. B. Mayhugh, formerly of Demos, Ohio, is now



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located at Bay View, Wash., and he writes under a recent date. One of the most suggestive of his remarks is to the effect that one never can know so much but what he can learn something new. He says a number of other trite things but we will let his letter speak for itself.

Find enclosed check to apply on my subscription for *Brick and Clay Record* which has been quite a benefit and profit to me. No man can get so far advanced in the clay industry but what he can learn some good advice thru the columns of the *Brick and Clay Record*. I have been engaged in the manufacturing of clay products since a boy of twelve summers. I am now fifty years of age, and may still be found by the fire light of the kilns. While a boy I made sand-mold brick by hand. I surely did enjoy it. No die troubles but jerk out the drags and go on. At the age of sixteen, I had charge of G. O. Robinson's brick plant at Bellaire, Ohio, where we manufactured brick by machinery. From that time I have traveled from coast to coast, superintending or installing brick and hollow ware plants. I am now engaged by the Star Brick & Tile Co., near Bay View, Wash., as their general manager, and superintendent. I have spent eight years of my service here, but for all the practical experience I have had these many years, I often turn to the *Brick and Clay Record* for advice thru its columns. I am manufacturing drain tile at this plant. It is a new industry for this country as the farmers have been using cedar wood ditch covering which last for about ten years. Since I have started to manufacture burned clay tile, the farmers have abandoned the use of ditcher wood and are now using clay tile. I have all I can do to fill the orders.

This message reminds us of Horace Greeley's famous remark, "Go West, young man," only this is a case of a man of years following Greeley's advice and making good "out West."

* * *

IN *the* WAKE of *the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Personal

George H. Clippert has returned from service in France and has been made secretary-treasurer of the George H. Clippert & Bro. Brick Co., Detroit, Mich.

E. G. Pick, of the Moores-Coney Co., of Cincinnati, Ohio, was present at the annual meeting of the salesmen of the Western Brick Co., at Danville, Ill., on March 8.

John Smith, superintendent of the state brick plant at Junction City, Ohio, died of pneumonia on February 5, at the age of 32 years.

W. T. Matthews, sales manager of the Claycraft Brick Co., of Columbus, Ohio, was called to Cleveland recently on business. Mr. Matthews reports a better demand for brick and in fact all clay products.

W. H. McLaughlin, secretary and treasurer of the Alsey Brick & Tile Co., Alsey, Ill., has just returned to his desk after being for several weeks overseas with the army. The plant of the Alsey Brick & Tile Co. is again in full operation.

Maurice B. Greenough, secretary of the National Paving Brick Manufacturers' Association, Cleveland, Ohio, has just

returned from Kentucky, where he addressed students of the Kentucky Road School of the University of Kentucky, Lexington, on various angles of brick paving.

Albert G. Stockwell, aged 80 years, died recently in Worcester, Mass. For a long time he was connected with the F. B. Norton Co., the predecessor of the Norton Co. and sold pottery and stoneware which was made by that firm. He afterwards sold the first emery wheel the Norton Co. made. Mr. Stockwell was also connected with the Dorchester Pottery Co. in a similar capacity for a number of years. At another time he was salesman for the East Brookfield Brick Co. and sold a great number of the brick used by many of Worcester's business blocks. He was widely known thruout the New England states.

L. M. Parsons, of Louisville, Ky., one of the best known brick and building supply men in the district, has recently resigned as manager of the brick and building supply departments of the R. B. Tyler Co., Louisville, and has accepted a position with the Vulcanite Roofing Co., of Chicago, for this district. Mr. Parsons made a reputation as a brick salesman in handling the Hytex line thru the old office of Owen Tyler. He later carried the line with him to the Union Lime & Cement Co., which quit business about a year ago. After being with the Union concern for about a year he reorganized the office of Owen Tyler, that concern becoming the Tyler Building Supply Co. About a year ago the Tyler Building Supply Co. was merged with the R. B. Tyler Co., Ike Tyler and Mr. Parsons going with the R. B. Tyler Co. For the first time in a number of years Mr. Parsons is not connected with the brick trade of Louisville, but he figures upon being an active factor in roofing business in the future.

Alabama

In a telegram from the Railroad Administration received February 25, by M. M. Caskie, of the transportation bureau, he was advised that the proposed increase of 40 per cent. in the rate on brick in carload lots between Montgomery and Birmingham, had been abandoned and would therefore not go into effect. This is welcome news to the brick manufacturers and dealers in Alabama, since the old rate will be maintained.

California

N. Clark & Sons, San Francisco, Cal., report a gradual picking up of business, with numerous inquiries and plenty of work on hand in the architects' and contractors' offices. This company is furnishing the architectural terra cotta for use in the construction of a \$200,000 apartment house to be erected at Gough and California Streets in San Francisco, for M. S. Show.

According to the officials of the McKnight Fire Brick Co., actual construction work will be started immediately on their new plant at Porterville, Cal., with an effort to have the factory in operation within sixty days. Material for the first building is already on the ground and while there is still some uncertainty as to the delivery of machinery, it is expected that part of it will arrive in time to be installed in the first of the buildings without delay.

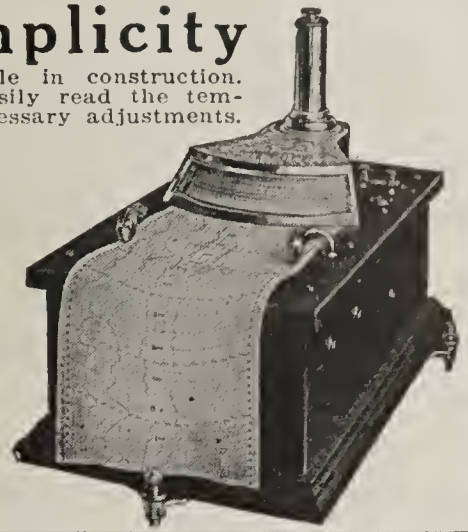
The work of rebuilding and installing machinery in the plant of the Gladding-McBean Co., Lincoln, Cal., is progressing rapidly. It will be remembered that this plant burned down last summer. The boiler room brick walls

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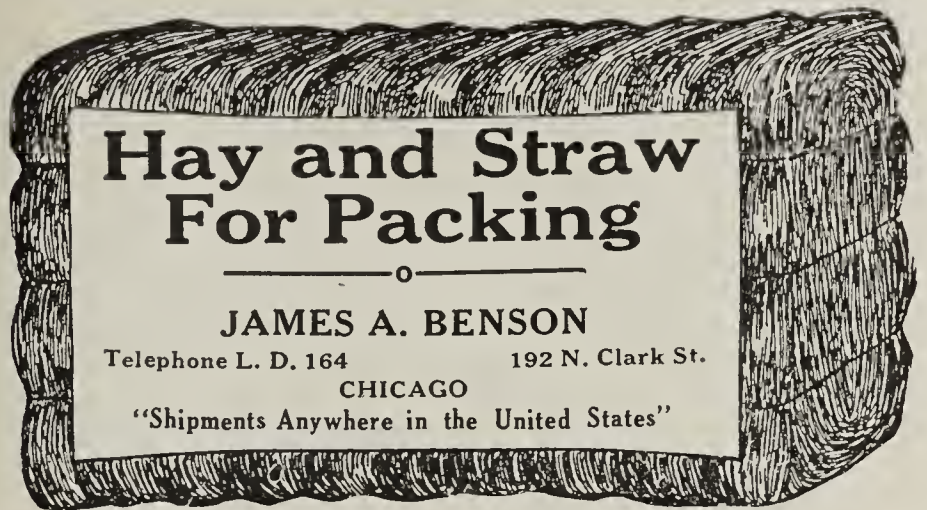
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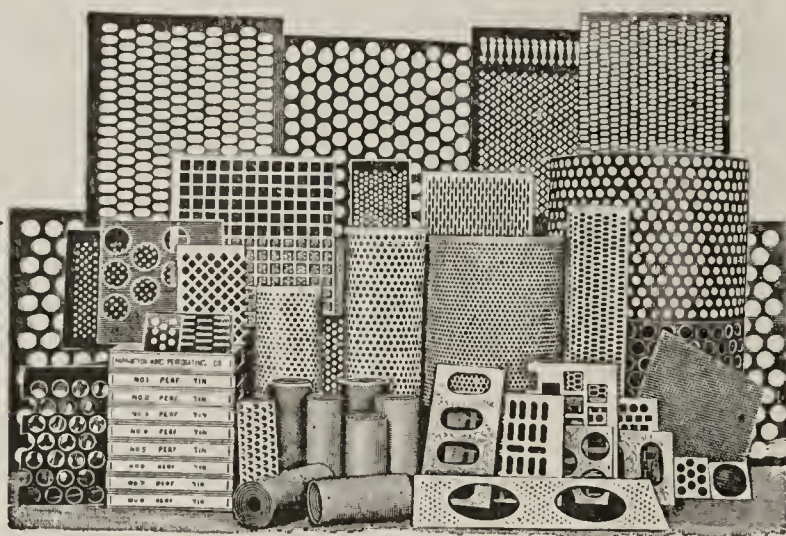
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are up and everything is in shape to furnish the required steam for the new factory. The grinding and pulverizing machinery is being placed into position and will soon be ready for operation. Other buildings will soon be started and it is expected that the manufacture of sewer pipe, and other clay products will commence in about six weeks.

United efforts on the part of the building materials dealers of San Francisco to bring about a uniform reduction in price of various building commodities has resulted in several declines, among which is the drop from \$14 to \$12.50 in the price of common brick and a 7½ per cent. drayage reduction, made with the idea of satisfying the demands of the building public. At the present time five or six brick buildings, the first of any importance to be figured upon within the past four months, have given the trade a start on what the dealers feel to be a slow expansion in building activities. There seems to be every evidence of a gradual improvement of general conditions. The bricklayers' union has under discussion a wage reduction in an effort to assist the manufacturers in creating a growth of construction work by a decline in costs.

A recent estimate on the quantities of clay in Southern California show the industry to be assuming vast proportions. There now are twenty plants in operation in this district, manufacturing an infinite variety of clay products, and utilizing twelve different kinds of clay deposits. Along with the contracts for the four new ships, comes an order for a shipment of 140 carloads of hollow tile for the Government hospital at Fort Whipple, Ariz., and a contract for the construction of nine permanent buildings at North Island, calling for about \$500,000 worth of tile. The Alberhill Coal & Clay Co. is supplying plants, about twenty in number, with clay for their manufacturing needs. Architectural terra cotta, floor tile, chinaware, chemical stoneware, fire-proofing tile, enameled brick, fire brick, conduits, saggars, ornamental pottery, hollow building tile, drain and roofing tile, face brick and sewer pipe are among the products of the allied industries. The deposit from which comes most of the material used by the Los Angeles Pressed Brick Co. is reached by the Santa Fe Railroad, which has extended a six-mile branch for this purpose from Elsinore. The power-saving plan of extracting the clay by gravity operations has been extended over the whole of the plant. The industrial railroad operates 4,300 feet of track, with 30 cars, each of two-ton capacity. The average yearly output of the Los Angeles Pressed Brick Co.'s plant is between 60,000 and 70,000 tons, which constitutes 85 per cent. of the entire output of this class of material in that district.

Contracts were closed recently for the construction of four new ships of larsite, the new "floating brick" invented by Gus Larson, superintendent of the Los Angeles Pressed Brick Co. The ships will be entirely Southern California products, for the clay used for making larsite comes from the Alberhill Coal & Clay Co. After months of experimenting, the process of the manufacture of the floating brick was perfected to the extent that the Government asked for enough material to build one ship which is nearing completion at the present time. The additional order for the four ships will place larsite on the market in commercial quantities. About 3,000,000 clay brick, aggregating 250 carloads of finished product is required in the building of the ships. Two of them are to be constructed by the Marine Construction Co. at San Diego and two by the San Francisco Shipbuilding Co. at their Oakland yards. The boats

are to be oil tankers of the 7,500-ton type. The Santa Monica plant of the company has been started in order to fill the big contract, eleven kilns to be operated there and six or more at the Los Angeles plant, as the Government contract calls for the larsite to be delivered within sixty days. James R. Shields, engineer of the United States Shipping Board Emergency Fleet Corporation, has been appointed to inspect the finished product for the Government. According to the opinion of experts, the new clay product will not only be used in this manner but will fill requirements in other more important building lines.

Colorado

The capacity of the clay products department of the Turkey Creek Stone, Clay & Gypsum Co., of Pueblo, Colo., is to be doubled according to present plans of that concern. The demand for clay products keeps the kilns of the present plant going to the limit.

Arrangements are now under way for doubling the capacity of the plant of the Golden (Colo.) Fire Brick Co., according to Manager James Knox. New machinery and equipment will be installed, to be run by electricity and the entire plant will be wired for electric lighting. During the past year all the energies of the plant have gone to manufacturing fire brick, but the plans are now to again enter extensively into the manufacture of building brick, in addition to fire brick.

Delaware

The Standard Kid Co., of Wilmington, Del., has let the contract for an \$11,000 addition to its plant, the J. A. Bader Co. being the contractor.

Marshall Yeatman, having bought the building at 819 Washington Street, Wilmington, Del., for his undertaking business, has taken out a permit for alterations and improvements at a cost of \$10,000.

In order to make a connection between two sections of the Lincoln Highway, just north of Wilmington, Del., in the direction of Philadelphia, the State Highway Commission will open bids for the material and work on March 26. The specifications call for 11,500 square yards of vitrified brick pavement, with concrete foundation and curbing. This is the same material as used on the other portion of the same road, which is now being constructed.

Indiana

John and Elizabeth Mullen, of Gary, Ind., have let the contract for the erection of a three-story brick flat building at 333-335 Jefferson Street, in that city, at a cost of \$13,000.

The William E. Dee Co.'s clay works at Newport, Ind., which started operation recently after being shut down for several months, is now running full blast with almost a full force. The company has orders for several train loads of tile and the prospects are that the plant will be kept busy for some time to come.

The Standard Shale Brick Corporation, of Crawfordsville, Ind., has been incorporated under the laws of Indiana, with a capital stock of \$5,000,000, to engage in the manufacture of brick, clay and shale products. The directors are: James B. Wilson, Sterling A. Falloon and Chalmers R. McGaughey.

Building operations at Gary, Ind., during the last two months have shown a decided increase over the same

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can be fitted to the requirements of your clay as a good glove is fitted to your hand—as a fine shoe is fitted to your foot.

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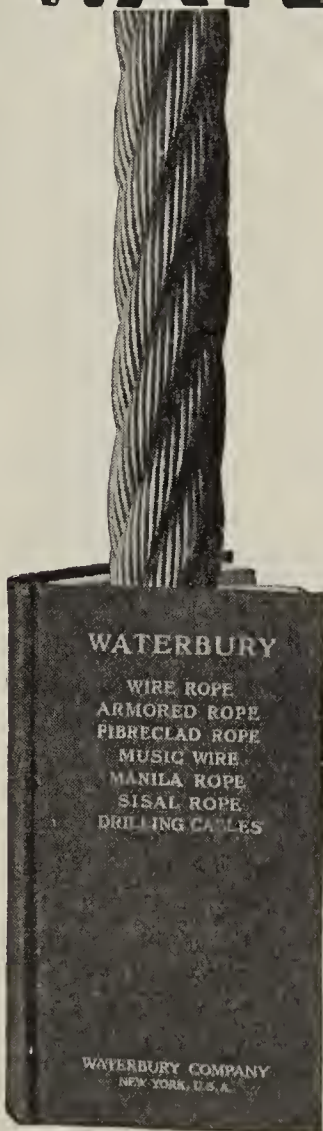
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period of last year. Sixty-seven permits, with a total valuation of \$228,792, have been issued since January 1, this being more than double the amount of operations in January and February of 1918. During February of the present year 45 permits were issued at a total valuation of \$168,560. Of the character of the buildings twelve were brick, seventeen frame, two were brick veneer, two of tile, two of cement block and one of corrugated steel construction. The frame homes will cost \$47,535 and the brick ones will cost \$83,050.

Iowa

The Platt Co., Van Meter, Iowa is building three new kilns.

A number of the plants in the Mason City, Iowa district which have been idle for the past several months are planning starting operations shortly after March 1, most of the smaller plants of the state which have been closed do not plan to open until late April or May.

Kansas

The plant of the Paola (Kan.) Brick & Tile Co., operated formerly by W. A. and T. E. Schwartz, has been sold to K. W. Klose, of Seneca, Kan. A modern, continuous kiln will be built, improved machinery installed and other improvements made to bring the yard up to a state of high efficiency. The product will be mostly hollow ware.

If a measure which was recently introduced into the house of the law-making body of Kansas becomes a law, cities in Kansas of the first, second and third class will be authorized to construct and operate ice and brick plants. Under the provisions of the bill, cities shall have power to build, control, lease or purchase such plants and shall have further power to join with person, firm or corporation in the operation and maintenance of the plant.

The Midco Paving Brick Co. has been organized to build a paving brick plant of 100,000 capacity near Lane, Kans., where they have a fine shale hill, natural gas, water and railroad transportation. The company also plans to make 40,000 dry-press brick and 50 tons of roofing tile per day. They are in the market for a complete line of machinery as the plant is to be equipped to be one of the most modern in the country, using up-to-date equipment, dryers and continuous kilns. R. L. Dennison, 106 W. Twelfth Street, Kansas City, Mo., is the engineer in charge.

Kentucky

It is learned that the Colonial Clay Co., with a capital of \$75,000, was incorporated at Paducah, Ky., by C. E. Jennings, N. R. Farris and W. M. Babb.

A. P. McDonald, sales manager for the P. Bannon Pipe Co., Louisville, Ky., reports that the company is managing to operate both plants and is still fairly busy, having been able to run thru the winter on orders in hand, the best business representing Government orders for material to be used in connection with construction at Camp Knox, which is still going ahead.

Indications in Louisville, Ky., are for a good year on sewer pipe, due to the many movements out in the state for sewers, streets, etc. Hazard, Ky., has just voted \$150,000 thru the City Council for sewers and streets. Several other cities are about to vote on such propositions.

or have already taken action, with the result that a lot of sewer pipe will probably be used.

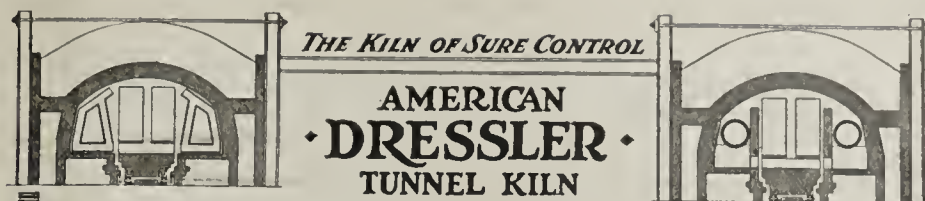
Andrew Hillenbrand, head of the Hillenbrand Brick Manufacturing Co., Louisville, Ky., is getting his plant in readiness to start operations about March 15. This plant has been down since the fall of 1917. In 1918 its coal supply was pooled with that of the Coral Ridge Clay Products Co., with the result that the Hillenbrand plant did not turn a wheel.

Prices are somewhat lower in Louisville, Ky., than they have been on clay products. Sewer pipe is fairly firm and in fair demand. Hollow-tile is off about twenty-five per cent. Brick prices are somewhat lower, with common brick quoted at \$16 f. o. b. cars, and \$18 delivered, less five per cent. ten days. Practically no hollow building tile is moving at this time, there being very little large work underway which requires fireproof construction. Drain tile is in fair demand in the country.

James T. Howington, head of the Coral Ridge (Ky.) Clay Products Co., expects to get started at the plant about April 1, after a layoff of several months, but is not certain of the starting date as yet, due to the fact that he has a fair stock on hand, and consumption is light. Mr. Howington in commenting on the situation said: "While actual orders continue light, there is an improvement in inquiry and it is beginning to look as though we may have a very fair spring, but a late one in developing."

The allied building industries of Louisville, Ky., are getting ready to launch a campaign thru the newspapers to boost building, the matter now being in the hands of a committee of the Louisville Builders' Exchange, which expects to get things shaped up shortly. This movement was started by the retail lumber dealers, but the general trades are strongly in favor of any movement which will start activity. A similar movement is being started on the north side, at New Albany. The real estate men, architects, engineers, lumber men, brick men, cement and general supply trades all appear to be willing to coöperate in the fullest to aid in making the movement successful.

The Southern Brick & Tile Co., Louisville, Ky., after being down for about a month, has about completed repairs and expects to start running March 15. The company reports an excellent demand for drain tile, this demand having cleaned up all stocks on hand. At the present time the company has five crews busy out in the state in laying tile ahead of spring planting of farm lands. The company recently had a letter from Mr. Hermann, of the U. S. Brick Co., Tell City, Ind., in which Mr. Hermann also reported a big demand for drain tile, resulting in that concern having sold out. Mr. Herpel, of the Southern, reports that he has just coupled up the fourth kiln to the gas producer system, having formerly had but three kilns hooked up. This will place the entire kiln system on gas. At the present time the company is not using producer gas for power, as the producer is not running all the time, due to delay in loading and unloading kilns, which results in a producer operating about six days on a kiln that is twelve to thirteen days in loading, and the same time in emptying. However, with a larger number of kilns in operation the producer system would be operating all the time, which would result in it being possible to have gas at all times for steam purposes.



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To Burning Clay Ware

INDIANA BLOCK

Three Operations in Clay County, Indiana, on Monon R. R. Capacity, 3,000 Tons per day.

INDIANA Number 4

Three Operations in Green County, Indiana, on Monon R. R. Capacity, 3,000 Tons per day.

Both burn with long flame, are very low in sulphur, and leave a flaky ash.

Tell us your requirements

POWER COAL COMPANY
FISHER BUILDING :: :: CHICAGO
Traction Building, Indianapolis, Ind.
Terre Haute, Ind.

6 years or 100 years---which?

**"Build
for
Service"**



The iron stack to left was 6 years old, rusted, when recently it blew down. The Radial Block Chimney, costing only 30% more for initial construction, and requiring no painting or further care, will be good for 100 years and give far better service.

We build and furnish complete chimneys for any usage and for clay plants of any description. We also specialize in the construction of complete Round, Down-Draft, Rectangular and Continuous Kilns.

Write us your requirements, and we will be glad to make suggestions and quote prices.

**J. M. CUTSHALL
& SON**

General Contractors

**BRAZIL
INDIANA**

Speed & No. 1 Ware

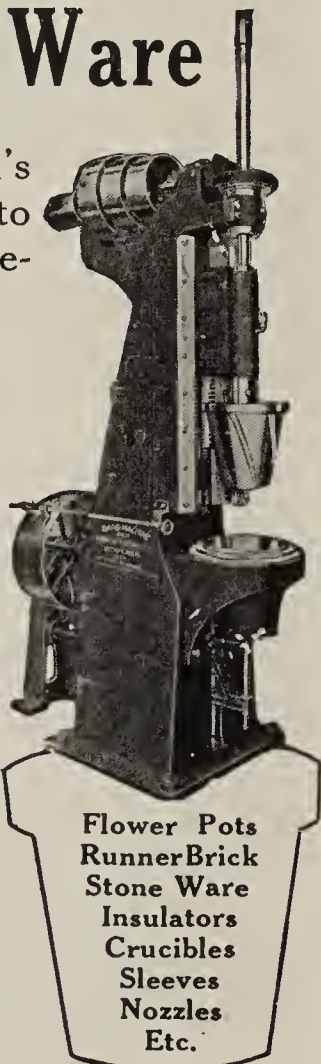
The popularity of Baird's Pottery Machines is due to their speed, simplicity of design, plus No. 1 ware.

The mould or head-piece of these machines always remains free from adhering clay. With the help of an ordinary workman, one of these machines will speed up production on easy selling ware, and increase your profits.

Send us a sample of your clay at once, and learn the possibilities of these machines. You will be surprised with the results. Write to-day to

Baird Machine & Mfg. Co.

265-69 Jefferson Ave., E.,
Detroit, Mich.



Maine

C. A. Priest has contracted with the Federal Government to lay 1,400 feet of main line sewer in the city of Bath, Me., running from Winship Street to the Kennebec River. Twenty-four-inch pipe will be used. Much of the route will be thru ledges and at some points the trench will be twelve feet deep.

Massachusetts

Altho the demand for brick has not materially increased as yet in Massachusetts, manufacturers feel that the prospects are good ahead and in many yards plans already are being made for a resumption of brickmaking at an early date. The open winter has left the yards and pits practically ready for immediate resumption.

Much new building work in which brick will be used is planned in Massachusetts for the spring months. Plans are being prepared by Architect Alfred C. Bossom, of New York, for a residence for a client in this state, to be built of brick and granite and to cost \$150,000; Edward T. Sheehan, a Boston architect, is drawing plans for a three-story brick rectory for St. Phillip's Catholic Church; the city of Worcester contemplates the construction of a brick addition to the high school to contain gymnasium and administration offices; a brick fire station is planned by the town of Southbridge, and several other similar buildings of a more or less public nature will soon be under way.

Michigan

Reports indicate that Rudyard, Mich., is going to have a drain tile plant very soon. Machinery for the manufacture of clay tile will be installed and running this summer according to present plans. The proposition of Soo bankers to finance the first tile draining that is done in the county up to \$75,000 has given great impetus to the movement among farmers to get their land drained this summer. With the manufacturing of drain tile within the county, there is another incentive for deciding upon drainage. It is stated that there is also a strong probability that a tile laying machine will be coöperatively purchased at Rudyard in the near future so that it may help in the work to be done this coming summer.

Missouri

The St. Louis (Mo.) Brick Manufacturers' Association, in line with its new policy of advertising brick as a building material, is using stationery with the phrase "Build With Brick" printed in letters one inch high across the top of its letter-heads.

A marked increase in the number of building permits issued in St. Louis, Mo., during the past month as compared with the two preceding months has been noted. Of the total number of permits issued, the greater per cent. have been for brick structures.

The McEwing-Thomas Clay Products Co. is pushing the hollow building blocks manufactured by it from shale-clay. Officials of the company claim that it will stand greater pressure than common brick and is much cheaper to lay since it saves mortar, labor and cuts the time required for laying in half.

An increase in wages, which is expected to have some effect upon the building trade, reverting back to the clay products industry, has been granted to three labor unions affiliated with the building trades of St. Louis, Mo. A flat

increase of 7½ cents an hour has been granted to more than 12,000 of these workers.

Few of the many clay mines in the vicinity of St. Louis, Mo., are working any considerable portion of the time. Many of the pits have been closed until better business conditions warrant their reopening. The inactivity of the mines has made a large number of employes of the clay industry here idle.

Charles F. Tiley, vice-president of the McEwing-Thomas Clay Products Co. says that a new field for brick construction has been opened up in the building of the partitions separating used and unused portions of coal mines. Altho the brick are sold in small lots the aggregate number of brick used in this way is many million a year. The state laws of Illinois require that all unused shafts be divided and separated from those in which mining is being carried on.

Bids which have been submitted to E. R. Kinsey, president of the Board of Public Service, on contracts for minor street improvements, indicate that St. Louis, Mo., will obtain her \$375,000 worth of street work, including a great amount of paving, for about 15 per cent. less than the work could have been done at this time last year. The saving on the contracts will enable the city to install further improvements. A good supply of materials in the hands of local manufacturers and a ready supply of labor are said to be the reasons for the reduced cost.

Building, which has been confined almost entirely to small projects and essential construction, even since the federal ban on building activities has been removed, bids fair to take the form of a comparative boom with the first warm days of spring, builders say. St. Louis clay products manufacturers are displaying faith in the builders' predictions by taking advantage of the present inactivity to place their plants in readiness for normal business requirements. Several of the larger concerns are reported to be overhauling their presses and kilns preparatory to an early resumption of business on a good scale.

New Jersey

There is no change in the situation as regards the ceramic plants in the Raritan River district, and reduced time schedules are now in force in the majority of the works. Plans are on edge, however, to inaugurate intensive production as soon as the building situation warrants, and calls for material are received. A brightening of conditions, to allow normal capacity operations is greatly to be desired.

A movement is under way at Matawan in the Raritan River district for the construction of a war memorial building. The matter is in charge of the Matawan War Memorial Committee, and tentative plans have been prepared for the construction of a large two-story, brick and tile structure, to cost about \$45,000. The building will be used by the community for council meetings and other civic work, with swimming pool, bowling alleys and other features of entertainment and utility for the local citizens.

Announcement has been made by President W. H. S. Demarest, of Rutgers College, New Brunswick, N. J., that commencement at the school will be held on Tuesday, June 10. Plans are under way for a big reunion on Monday, June 9, for all Rutgers men who took part in the war, while class day exercises and the junior oration will be held on this same date. The annual junior promenade at the college was held in the Ballantine Gymnasium on Friday evening, February 21. Lieutenant-Colonel Walter S. Greason

INSURANCE AGAINST FIRE At Actual Cost

The Manufacturers of Clay Products at Reciprocal Insurance Bureau, offers you an opportunity to come in and insure against fire with preferred risks that are of your own class and engaged in the same line of business. This Bureau saves you the expense of paying for (1) enormous overhead, (2) agents' commissions, (3) companies' profits. You are assured of greater safety, co-operative assistance of a practical kind, and better service.

A large Brick and Tile plant owner writes:

"We can truthfully say we have never had more prompt and satisfactory adjustment of claim than in this case."

Write us for rates and our plan to render better service and greater safety.

**Manufacturers of Clay Products at
Reciprocal Insurance Bureau
29 S. LA SALLE ST., CHICAGO**



Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

**THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO**

"We have been using at our two factories for the past year, Barium Carbonate made by the Rollin Chemical Company. This material is used to prevent scum and has proved entirely satisfactory."

THE UNITED STATES ROOFING TILE CO.

5-15-18

IMPROVE YOUR WARE

It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

Write us now.

The Rollin Chemical Co.
Charleston, W. Va.

BRICK MUST HOLD UP ITS REPUTATION

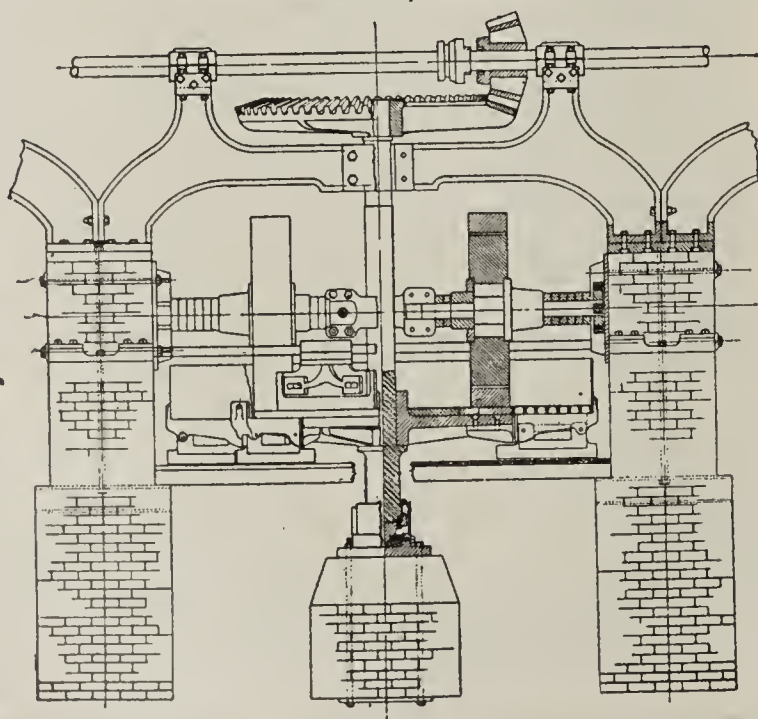
The "MEANS" 9 Ft. Dry Pan

is being chosen for the reduction of clay and shale by successful claymen because careful comparison with other makes, and records of their performance, show the "Means" to be the best.

Special features are the improved step and toe, and adjustable bearings.

In addition to dry pans we manufacture all equipment required in sewer pipe and tile plants, and our special goose-neck attachment for the sewer-pipe press affords a means of making brick directly from the press. Write us.

The Toronto Foundry & Machine Co., Inc.
Toronto, Ohio



has been detailed to the college as professor of military science and tactics.

Fine progress has been made recently in the erection of the new ceramic building for the School of Industrial Arts, Trenton, N. J. The building is now practically under roof and is expected to be ready for occupancy at an early date. The structure will be two story, about 56x65 feet, more than one-half of which is designed to be given over to ceramic instruction, including ceramic chemical laboratory, general ceramic laboratory, pottery modeling rooms and other departments. The building is located on a nearby street to the present school, easily reached in three to four minutes. Frank Forrest Frederick is director.

The American Hollow Tile Co., Hightstown, N. J., is planning for the early resumption of operations at its plant. For some time past the company has been inactive as regards production owing to conditions in building circles. Good production will be maintained at the plant from now on in anticipation of the demand for hollow building tile and other burned clay specialties. Wilson A. Philips, who recently resumed operations at Trenton, opening offices in the American Mechanic Bank Building, is interested in this organization. He reports that a good number of inquiries are being received, and a few interesting orders booked for burned clay specialties for early delivery.

There is little or no change in quotations for building materials at Newark and other cities of New Jersey. Common brick in Newark is selling for about \$19.50 per thousand, delivered on the job, while at Trenton, a point of manufacturing, the price is \$14 for good hard common. The supply holds up well and is sufficient for all current demands, altho at Trenton the depleted stocks at the yards show the necessity for a resumption of manufacturing at the earliest possible date. The important plants in this district are now making ready for such activities, and by the close of March it is expected that the wheels will begin to turn with a vim. Other burned clay products, such as hollow tile and face brick are operating under fair demand, with prices holding firm at current levels.

The Material Men's Credit Association of Passaic and Bergen Counties, N. J., composed of building material men at Paterson, Passaic, Hackensack and other important centers in this district, is arranging for an active campaign to revive the building industry in this vicinity. It is proposed to interest banking institutions, capital, city and county officials, and building organizations of all kinds that can assist in promoting the industry in any possible way. A number of meetings will be held at an early date with these and other interests to arrange the details of action. Committees have been appointed for the different cities and communities; on the Paterson district committee is Charles Agnew, president of the John Agnew Co., of that city, while at Passaic, the committee is headed by John M. Campbell, president of the Campbell-Shultz Co., of such city, dealers in brick and other masons' building materials.

The continuance of the unusually mild winter in the East, a winter which has not only been devoid of freezing weather, but also in snowfalls of any account (not one having necessitated street-cleaning activities) is serving as a spur to the anticipated revival in building operations in New Jersey. Architects and engineers in the different leading centers of the state are making numerous inquiries in regard to building materials of all kinds, and there is a feeling of certainty that things are going "to stir" at an early date. Unquestionably the current hesitancy is

brought about by the labor situation and the so-called high prices for different standard building commodities. Factory building thruout the state is at a minimum; at Newark, Trenton, Jersey City, Paterson and other important cities, the majority of work at the present time is for dwelling and general business structures. During the past month in Newark, permits for buildings of this nature of brick or other fireproof materials totaled \$103,360 in valuation, and while proportionately smaller in the other cities mentioned, it shows the way that the "wind is blowing," and that, towards the building of permanent structures with brick or allied materials.

Among the interesting building projects now being planned in various cities in New Jersey, may be mentioned the new five-story apartment hotel to be erected on East Park Street, Newark. The structure has been designed to house 70 families and will be the largest of its type in this section. It will be constructed of brick with stone trimmings and is estimated to cost \$300,000. The same architect is preparing plans for a 29 family, four-story and basement apartment house to be located at Orchard and Walnut Streets, Newark; and for a similar structure to house 21 families, to be erected on South Maple Avenue, East Orange. These buildings will be of brick construction, with limestone trim, and are estimated to cost \$60,000 each. At Paterson, the Don-Bosco Polish Institute has had plans prepared for a three-story addition, of face brick construction, while the Board of Education is planning for the construction of a new brick school, with terra cotta trimmings, at Dixon and Caldwell Avenues, to cost \$125,000. The Elizabethtown Water Co., Elizabeth, has had plans drawn for a one-story brick pumping station and filter house to be located at Milltown, with estimated cost placed at \$150,000.

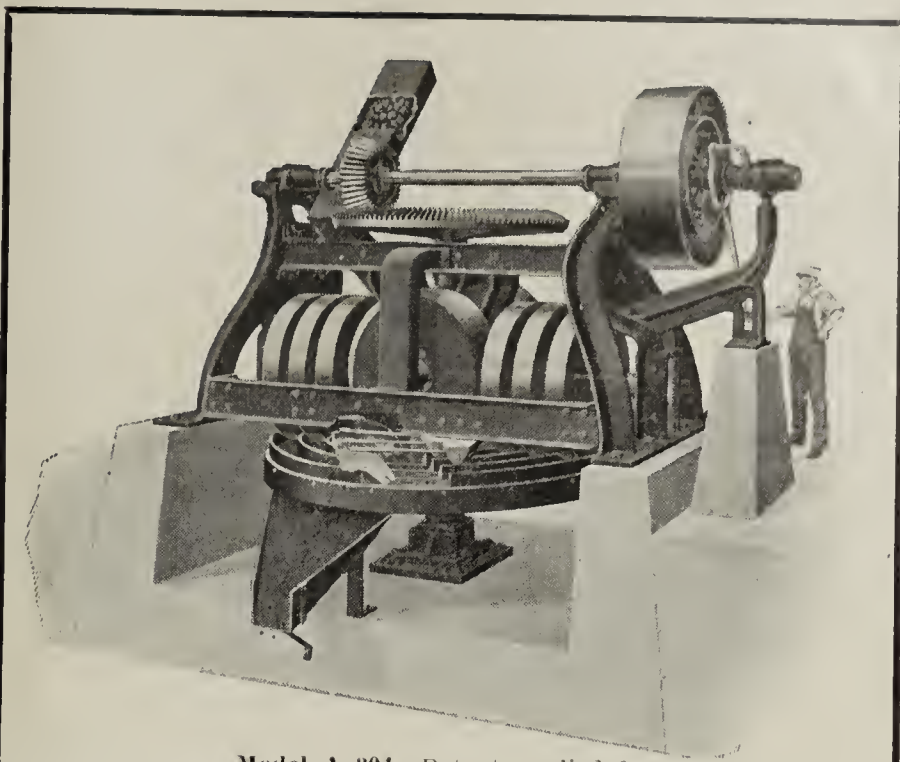
New York

The Allegany Valley Brick Co., Olean, N. Y., operating a plant on Cherry Street for the production of paving brick, has filed notice of dissolution.

To bring about greater interest and cooperation in building circles at Syracuse, N. Y., a local Builders' Exchange has been organized by members of the Allied Building Trades Employers' Association. The new organization will bring together every important factor of the building trade in this section, and comprehensive plans are under way to develop the provinces of the new exchange to the fullest possible extent. An executive committee has been arranged and a number of important conferences will be held during the next few weeks.

Announcement has been made by John Mahoney, treasurer of the company, to the effect that the Jamestown (N. Y.) Shale Paving Brick Co. will resume operations in the near future. The brick company's decision to reopen its plant will aid in solving two local civic problems; it will mean the absorption of much surplus labor and also will provide the city with a local source of brick for paving purposes. The brick company's announcement of its intention to resume operations follows the breakdown of negotiations between the city and concern as to the proposed lease of the plant as a municipal brick yard.

Following the reference in the February 25 issue of *Brick and Clay Record*, regarding the operation of the Erie Canal thru the city of Syracuse, N. Y., during the coming season, it is interesting to note that the city officials have arranged



Model A 304—Patent applied for

Continuous feed and discharge for wet or dry materials.
Capacity up to 1200 tons.

Machines for

Crushing, Grinding, Pulverizing, Empounding, Tempering and
Mixing, Elevating and Conveying All Kinds of Materials.

STEAM PRESSES FOR MAKING

Sewer Pipe, Drain Tile, Hollow Blocks, etc.

All of the highest class designing and construction
are manufactured by

THE STEVENSON COMPANY

General Offices and Works: WELLSVILLE, O.

Engineering and Western Sales Office, Monadnock Building
CHICAGO, ILLINOIS

SAUERMAN DRAG LINE CABLEWAY EXCAVATOR

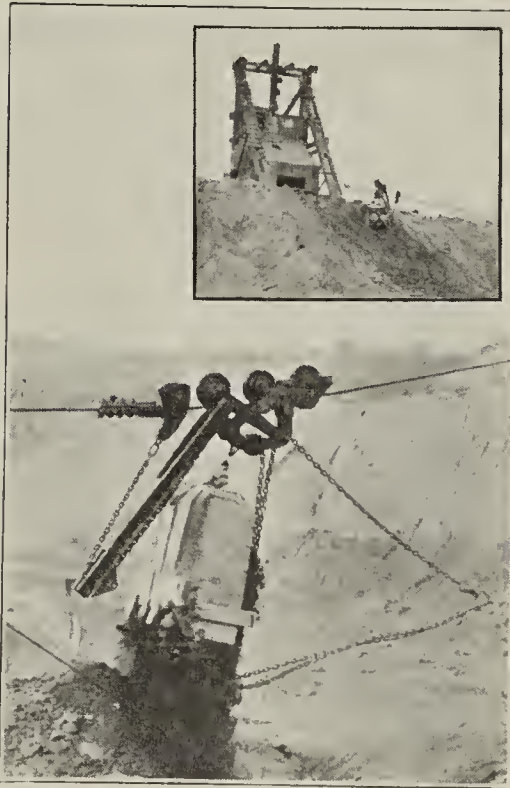
is a one-man machine which connects the clay pit with the plant and digs, conveys and dumps the clay in one continuous operation. It does away with the shoveling gang and the cars, locomotive, track, etc., that are required when other kinds of excavating machines are used.

Here's Example of Economy of Sauerman Outfit in Clay Plant:

The problem confronting one large Ohio brick manufacturer was to find the most economical means of getting the clay from a large hill and delivering to the plant situated in the valley. The method first tried out involved the use of a steam shovel with cars and horses to haul the clay to the plant and required the employment of six to eight men.

The Sauerman outfit which has taken the place of the shovel and cars, digs the clay from the hill and conveys it to a hopper from which a car runs up and down a short incline to the plant. Two men constitute the entire operating force.

The small picture shows the bucket digging a load near the top of the hill. The bucket loads in a few seconds, then the drum carrying the load cable is released by the operator of the double-drum friction hoist on the hill-top and the loaded bucket returns down the track cable by gravity to the hopper 500 ft. away in the valley. The large view shows the quick, sure, automatic dumping action of the bucket.



This low-end dump type of installation has proved to be a perfect solution of this clay-digging problem. Our other type of outfit, dumping at high end of cableway, is equally successful where the clay has to be delivered to a point higher than the place of digging. What is your problem?

Catalog free on request.

SAUERMAN BROS.

316 S. Dearborn St., Chicago

Mfrs. Cableway Excavators, Power
Scrapers and Cableway Accessories

WHAT GOOD DRYER ENGINEERING MEANS

It is so easy to DRY materials that very crude methods are often followed, whereas great economies could be effected by the more careful utilization of known information by experienced engineers.

Proctor
DRYERS

A drying equipment developed or adjusted to your special conditions and requirements will probably

Save Steam or Heat,

Save Labor in Handling Materials,

Improve the Quality of the Product,

Economize Floor Space,

Improve Working Conditions,

Increase Capacity or Output, or

Insure More Uniform or Better Output.

It is often possible to combine the drying operation with preceding or succeeding operations and thus to save handling, space or power.

Proctor
DRYERS

There's a Proctor Dryer for Every Drying Need

During the past 35 years we have built dryers for almost every conceivable purpose, but we constantly find it necessary to re-adapt, combine or develop new types of equipment, for which purpose we maintain a large staff of engineers, and a complete experimental department where work is done under scientific control. All of these facilities will be gladly placed at your service.

Philadelphia Textile Machinery Co.

SEVENTH STREET AND TABOR ROAD, PHILADELPHIA, PA.

PROVIDENCE, R. I.

CHICAGO, ILL.

CHARLOTTE, N. C.

Howard Building

Hearst Building

Realty Building

HAMILTON, ONT., CAN., W. J. Westaway, Sun Life Building

for an appropriation of \$16,000 to insure the utility of the stream to local industrial interests. The appropriation is for the purpose of providing bridge tenders, laborers, etc. The Onondaga Pottery Co. is one of the local interests viewing the outcome with particular favor. An interesting building project which now seems assured, is the construction of a new postoffice by the Government in the city. The proposed structure is estimated to cost close to \$1,000,000, and will be used for different federal offices and customs house.

While under normal conditions brick manufacturers in the Hudson River district would be "brushing up" preparatory to capacity production at this season of the year, the situation is particularly quiet at the present time. It is quite possible that many of the important yards in this district will defer immediate operation until it is known definitely just what the demand is going to be, and to just what extent building projects of any importance will develop with the coming of spring. As a result of the quiet period in building circles for the months gone by, some few yards have a surplus on hand, and quite naturally this will be utilized before further production is under way to any important extent. Few, if any, shipments are being made at the present time, and the entire attitude is one of a waiting nature.

Supplementing the recent meetings of Hudson River brick manufacturers at Newburgh, N. Y., the Building Trades Employers' Association called a meeting of the ceramic and tile interests of the city on March 1, to consider general trade conditions, including labor, the building situation, freight rates, and other matters of importance. The meeting proved to be highly successful, being presided over by R. E. Jordan, president of the Tile Manufacturers' Representatives' Association, with Henry Petri, president of the Atlantic Coast Dealers' Association, also in attendance. Following the meeting, a dinner was held at the Cafe Boulevard. The main idea of the gathering was to devise ways and means of placing the local market in a stable and attractive condition for the forthcoming anticipated building construction work.

There is little of new interest to report in the New York brick market. The price of good hard common brick at \$15 per thousand in cargo lots, wholesale, which has been prevailing for many months past, still holds, and there is no indication that there will be any change for some weeks to come. There have been but few new barge arrivals in the city during the past month, and there is a good supply on hand at the present time. While prospective builders are awaiting a drop from the present level, which means a price of about \$17.85 delivered on the job, there is little likelihood that this will be evidenced until the demand absorbs the present supply and new production comes into the market. As has been the case for some time past, there is no Raritan brick available in New York to any appreciable amount. The call for face brick continues light, with manufacturers anticipating a largely increased demand within the next sixty to ninety days. Prices on other building materials and burned clay specialties hold firm, and there is no evidence of a recession from existing levels.

Improvements in the building situation continue at New York and vicinity. The general air of indefinite action is giving way to decided action in certain quarters and it is expected that with the passing of March, a number of important projects will be placed under way. The depressing factor of the trouble between employers and the unions, which threatened to take on a serious aspect, is likely to be smoothed out without any loss save the interruption in con-

struction on a number of buildings now under way. Later conferences between both interests resulted in a decision to submit the grievances to arbitration, with Justice P. H. Durgo, State Supreme Court, agreeing to act as umpire. In the meantime, work will go on as heretofore, and prospective builders can proceed with the development of their plans for new structures. Among the new projects brought to the front during the past fortnight may be mentioned the new fifteen-story building, about 100x100 feet, to be erected by the National Bible Institute at 214-216 West Thirty-fifth Street; the building, to be known as the Crenmorne Mission Building, will be of brick construction, using face brick, terra cotta and limestone. It is estimated to cost in the neighborhood of \$1,000,000. Aaron Cohen, 212 Fifth Avenue, is planning for the erection of a new silk mill at William Street and Freeman Avenue, to cost over \$50,000. The factory will be of brick construction. The Cushman Baking Co., Brooklyn, has filed plans for the construction of a new three-story brick plant, about 100x160 feet; the structure will be located on Nostrand Avenue, and is estimated to cost \$125,000.

Commencing March 1, the Brick, Terra Cotta & Tile Co., Corning, N. Y., has resumed operations at the plant on Franklin Street, for the production of its regular specialties. Owing to conditions in the building and road construction fields, the works have been closed for some time past, and it is now proposed to re-establish a good basis of production in the various departments. M. C. Gregory, son of M. E. Gregory, the proprietor, has returned to Corning after a connection with the United States Bureau of Standards for some few months, and during which time he has been engaged in the optical glass division, proving so efficient that his desire to see service at the front could not be brought about with approval of the Government authorities; his work with the bureau was deemed by the army officials to be of much greater importance. Mr. Gregory, Jr., will have charge of the plant, and will be assisted by Mr. Edward Christine, who will have jurisdiction over the drafting and affiliated departments of operation. Mr. Layton, formerly connected with the Federal Terra Cotta Co., New York, with plant at Woodbridge, N. J., will be connected with the company in the future, having charge of certain phases of plant production. The works will give employment to about 50 men for initial activities, and which will be for the manufacture of common brick, paving brick, and allied burned clay specialties. The company has long made a feature of red shale paving block, using the slogan "Best By Test," and anticipates a big demand for this commodity during the forthcoming road building season. M. E. Gregory was a recent visitor to New York City and the Raritan River district of New Jersey in connection with raw materials for forthcoming production at the plant.

Ohio

The Cleveland (Ohio) Clay Products Co. has been chartered with a capital of \$10,000 by Lee A. Kreuger, John Scheuer, Joy D. Hurd, Lloyd E. Lafferty and Edward J. Cherney.

Two architects in Cincinnati have received requests to prepare plans for two new houses to be built in that city. One is to be a California bungalow to cost \$15,000 and the other a residence to cost \$25,000.

Greater confidence in building is now beginning to show itself in Cincinnati, Ohio. The total number of permits issued for the month of February was 784 which is an



You Can Trust TRADE **SAWYER** MARK Registered

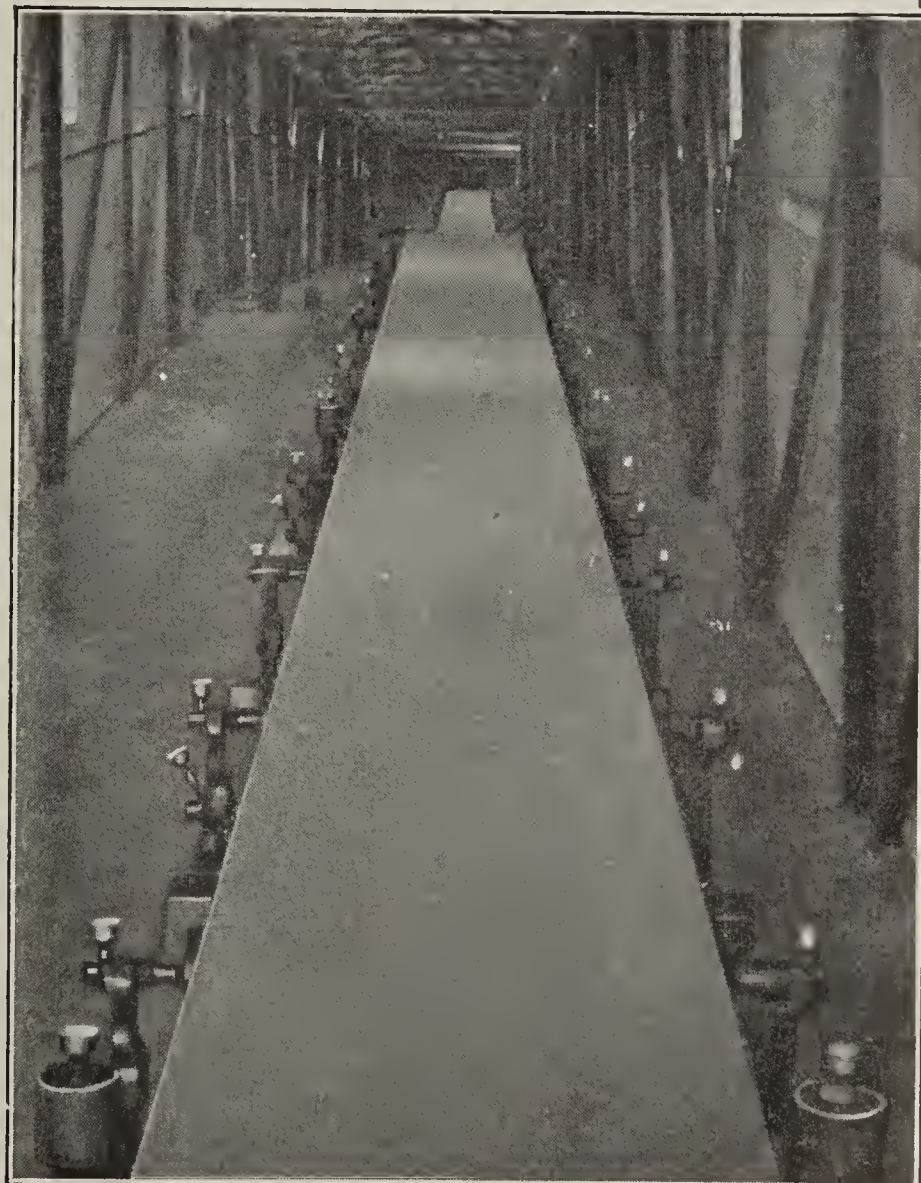
Where the service is hardest in your
Brick Plant.

This stitched canvas belting more
than meets the modern brickman's
demand for efficient transmission,
conveyor and elevator service.

It is backed by 30 years of experience
in Brick and Clay Plants.

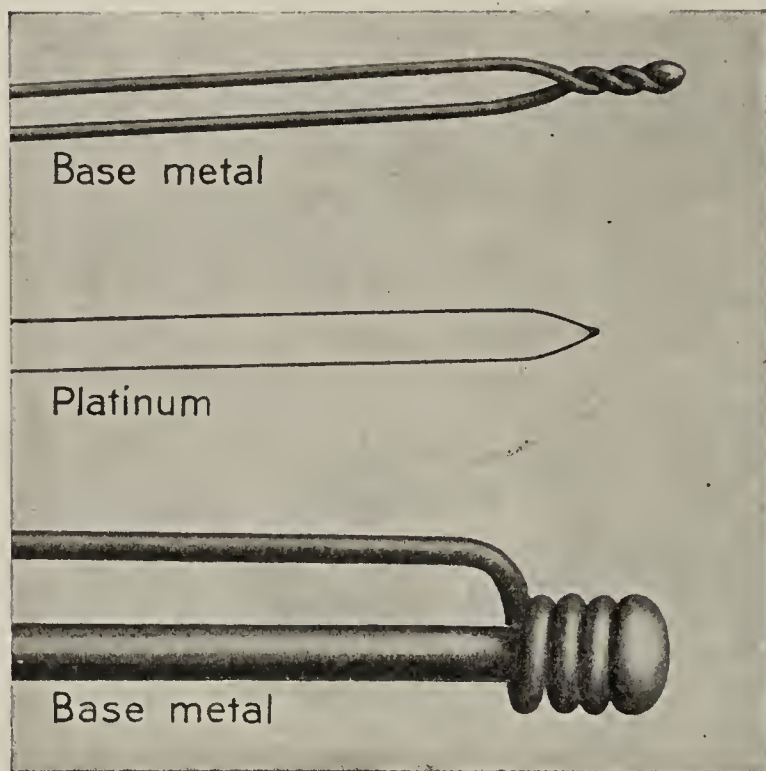
Specify SAWYER.

United States Rubber Company
MECHANICAL GOODS DIVISION



USE THWING HIGH RESISTANCE MULTIPLE RECORD PYROMETERS with Base Metal Thermocouples

Avoid the expense of platinum and at the same time secure greater mechanical strength and more constant electrical qualities.



The present excessive cost of platinum makes it more advantageous than ever to use Thwing Base-Metal Thermocouples for measuring temperatures below 1300° C. (2400° F.).

The above size comparison for equal duty indicates the far greater mechanical strength of base metal, which enables it to withstand very severe service and rough handling.

Base metal has the further advantage that its electrical qualities remain practically constant throughout the life of the thermocouple, whereas platinum, being subject to steady crystallization and deterioration, must be recalibrated frequently.

In addition to six renewals of base metal being cheaper than one of platinum, base-metal thermocouples also give good service with practically no maintenance attention.

The facts as to this greater economy and high efficiency of Thwing Base-Metal Couples are a matter of long-time record in many industries and we are prepared to demonstrate these advantages beyond question.

Ask for references, performance data, and prices.

THWING INSTRUMENT CO.
3336 Lancaster Ave. Philadelphia

48

increase over the number issued for the same month last year, when it was 681. However, the total value of building permits this year was less than a year ago, the figures being \$191,915 and \$250,000, respectively.

Work has been resumed by the McClainsville plant of the Standard Stone & Brick Co., at Bellaire, Ohio. Several months' idleness was the record of this concern on account of war conditions.

The Vulcan Brick Co., at Wellsville, Ohio, has started the shipping of ground clay in car lots. Grinding pans have been installed, and the capacity can be worked up to four or six cars per diem.

A request for estimates in the construction of an auditorium to cost \$22,000, has been received by J. G. Steinkamp & Bro., of Cincinnati, Ohio. The building will be 60 by 900 feet, and will contain about 900 seats.

An expenditure of about \$25,000 will be made on the building to be constructed on Elsinore Avenue, Cincinnati, Ohio, and which is to be occupied by the Cunningham-Holmes Co., who will have the agency for the Pierce-Arrow automobile.

According to the recent report of the Columbus (Ohio) city building inspector, a total of 167 permits for the construction of new buildings were issued during February, 1919, having a valuation of \$571,470. This is about 261 per cent. more than the valuation of the permits issued during February, 1918. One of the largest buildings was a round-house for the Pennsylvania Railroad, to cost approximately \$370,000.

The Ohio Highway Commission on February 28 opened bids for the improvement of 45.5 miles of road at a cost of approximately \$1,056,516. Quite a few of the jobs were for brick paving and contracts will be awarded in the near future. The stretches of brick paving are located in Athens County, 1.49 miles; Butler County, .635 miles; Lake County, 7.715 miles; Lake County, 2.25 miles, and several smaller contracts.

Brick salesmen are now hustling about school house building, in which department there is considerable activity in central Ohio territory. The contract for the brick school building at Rushville has been awarded to George Van Gundy, of Lancaster. The erection of a brick school building at Soutsville, Ohio, was awarded to Taylor & Linn, of Zanesville. Quite a few other school buildings are in prospect.

J. M. Adams, general manager of the Ironclay Brick Co., of Columbus, Ohio, says there is a distinctly better tone to the brick trade in Ohio territory. Contractors and architects are figuring on new construction work and things look brighter all along the line. The Ironclay Brick Co. is preparing to start its plant at Shawnee, which has been in idleness for quite awhile. The company is getting the machinery in shape and getting labor which drifted away during the period of idleness.

A plan has been formed by a joint legislative committee of the Ohio Legislature which is designed to relieve cities of financial embarrassment and also to provide work for the growing army of unemployed. Because of the limitations of the Smith one per cent. tax law most of the Ohio municipalities and counties have bonded themselves to their limits and consequently money for needed public improvements is not forthcoming. As a result it is planned to suspend the operations of the one per cent. tax law temporarily in order to permit municipi-

palities or other political subdivisions to issue bonds to pay for road improvement and other public works

Excellent progress has been made during the past twelve months in the development of the plant of the North American Brick & Clay Products Co., at Mansfield, Ohio, according to recent reports. The work of building a spur track to the site of the plant has advanced to the stage where a great deal of the trackage has already been completed. Officers elected by the new board of directors consist of W. G. Cappelier, president; J. B. Lindley, vice-president and treasurer; and W. W. Sharp, secretary. Besides the above members, the directorate chosen for the new year consists of A. E. Hancock, J. P. Lantz and C. M. Urich, of Mansfield; Andrew Usinger, Ashtabula; P. Firstenberger, Marion, and W. D. Lust, C. C. Heller and Willis Spaide, of Bucyrus.

Oklahoma

The American Brick & Tile Co., Oklahoma City, Okla., has been incorporated with a capital of \$125,000, by Kee H. McKee, A. W. Kenyon and E. D. Kenyon.

It is reported that F. W. Holmes, vice-president and general manager of the Southwestern Steel Co., at Sand Springs, Okla., has stated that the country adjacent to Sand Springs is underlaid with an inexhaustible deposit of fire clay which could easily be utilized for glass houses, manufacturing plants, founderies and smelters. Investigation of this clay was made several years ago but for some reason its virtues have never been exploited. The proposition of putting it to extensive use in Oklahoma is particularly interesting now in view of the fact that the carriers propose to increase the rates on fire brick and such commodities from St. Louis to Oklahoma points about thirty per cent. on top of the enormous increase allowed under general order No. 28 and made effective June 25, 1918. The steel concern mentioned above is establishing one of the largest institutions of its kind at Sand Springs, where it will manufacture casings for general use and also a patented frog for derailing railway cars.

Pennsylvania

Reports from different parts of Pennsylvania in which the manufacture of brick is an important industry, indicate that the coming season is expected to see the resumption of operations at many brick plants which have curtailed production during the past year. Not only will the season see the opening of different works in Philadelphia, Lehigh, Huntingdon, Lancaster, Westmoreland, Clearfield and other counties, but it seems destined to bring about near to normal capacity production of plants which have been operating at greatly reduced outputs.

Building materials of all kinds hold at firm prices in the Philadelphia, Pa., market, and there is no indication at the present time of any great recession from existing quotations. Good, hard common brick is bringing about \$19.50 to \$20 delivered on the job. The supply is sufficient for all immediate demands, and with the coming of spring and manufacturing operations, it will not be long before a greatly increased allotment is available. There is every indication that the coming building season will make a good demand on the local market, and brick interests, for the most part, are arranging their plans accordingly. The call for face brick is at a minimum, while the demand for terra cotta, hollow ware, and other burned clay specialties, is about all that can be expected with matters in the industry as they now stand.



the never-slip — never slack — original stitched cotton duck belt.

You can gauge my calibre from my "references."

(Names on request)

"Pulled a plant 27 years and still running."

"Running two main drives for 14 years—another for 20 years—same plant."

"On the job continuously for 20 years and still doing good work."

"Giving service that can't be obtained from leather."

"Excellent service on the hardest drives known"—etc. etc.

Power or Conveyor — I'm made in a size and ply to fill all jobs—and get all the pull from the pulley.

Send the word to Mill Supply House or Home Plant direct—and I'll report for duty promptly.

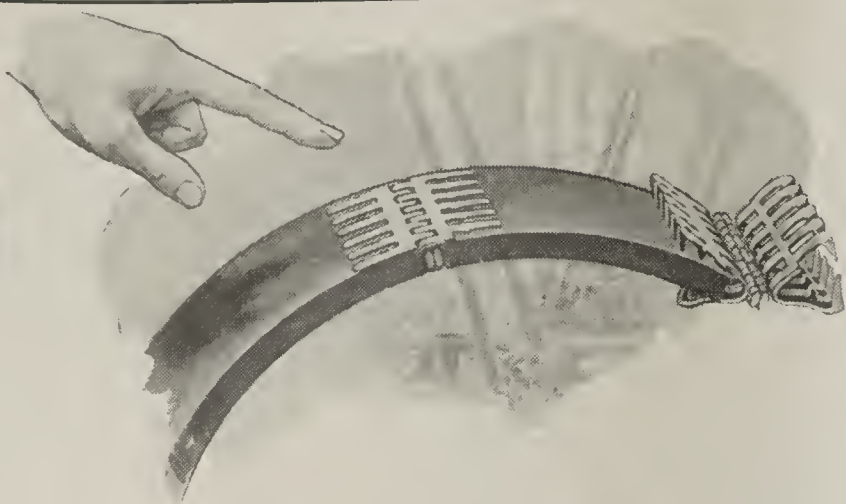
"On-the-Job" *Gandy*

The Gandy Belting Co.

732 W. Pratt Street Baltimore, Md.

New York Branch: 60 Warren Street





One Workman and a Hammer

—and in less than five minutes your average broken machine belt is as good as new, with a joint of strongest steel that will wear as long as the belt itself.

ALLIGATOR

REGISTERED IN U. S. PATENT OFFICE

Steel Belt Lacing

is adapted to leather, rubber, cotton, canvas, balata or any machinery belt of any thickness or width. No roughness or stiffness of the joint, no punch holes. The double toothed jaw grips the belt from both sides and clinches without weakening the fibres of the belt. The joint is smooth on both sides so that it will work perfectly with an idler or on a quarter or half turn drive.

Alligator Steel Lacing will make your belts last longer—will save you time and labor in repairing broken belts, and will give you enduring satisfaction.

Write for complete information and descriptive literature.



Flexible Steel Lacing Co.,

Dept. A. L. 32, 522 So. Clinton St. CHICAGO, ILL.

Manufacturers of

Flexco-Lok and Split Handle Portable Lamp Guards

While there is a note of encouragement in building circles at Philadelphia, Pa., the anticipated movement in construction work has not as yet shown any particular force. Altho the Government has practically withdrawn from the local field as regards its extensive operations under way prior to the close of the war, the Navy Department is still an important factor in the maintenance of construction work in this district. The League Island Navy Yard is a hive of activity, and plans have been completed or are now in course of preparation for many important structures at this location. Other building work, for the most part, is for improvements and alterations in existing structures, primarily dwellings and apartments, and in this, it is interesting to note that brick and other burned clay materials are operating under fair demand. Housing is greatly needed in this vicinity, and with the turn of the winter the majority of activities will unquestionably be along this line. Plans are now being prepared by Architect H. Kline, Mifflin Street, for about 58 brick residences, to be constructed on Ruscomb Street; the structures are estimated to cost about \$5,000 each, making a total of about \$290,000. The Hoffman Co., Finance Building, architect, is preparing plans for the construction of a new theater and office building to be erected at Allentown, at a cost of about \$500,000; the structure will be of brick, hollow tile and steel, Wilmer & Vincent, Columbia Theater Building, New York, being the owners.

Virginia

An increase in capital stock of the Clay Products Corporation, of Hampton, Va., was made recently. An expansion from \$25,000 to \$60,000 took place.

Red clay brick will be the main product of the new plant of the Radford Supply Co., which proposes to establish and operate a new brick plant at East Radford, Va.

With a capital stock of \$1,000,000 and using a fifteen-acre site, the United States Potash & Brick Corporation, of which H. O. Spangler is president, will erect a brick plant with a daily capacity of 500,000 brick. The majority of the machinery will be electrical, and the cost of the whole improvement will be upwards of \$500,000. O. T. Denhardt, who will be general manager of this new business, has already established general offices at Roanoke, Va.

West Virginia

A charter has been granted to the National Shale Brick Co., Martinsburg, W. Va., capitalized at \$250,000, to be used in the erection of a large brick plant. The directors of the new company are: James H. Dawes, of New York; James N. Dyson, Attorney F. Vernon Aler, J. A. Butler and W. E. Crawford, of Martinsburg.

✻ ✻ ✻

Of vital interest to the building material interests in this country is the report of Wilbert J. Austin, vice-president of the Austin Co., submitted to the Middle West trade upon his return to Cleveland, Ohio, after a three months' tour of France. He brings facts that the trade here has long desired. Mr. Austin's opinion is that reconstruction materials from America will be purchased by France in a limited way only until French manufacturers have all the orders they can fill. He says that even Germany, to pay its war indemnity, will pay in manufactured products, and that a certain amount of competition can be expected by this country from the erstwhile foe of France.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Establishes Clayworking Machinery Department

The Lancaster Iron Works, Lancaster, Pa., have established a Clayworking Machinery department. Way back in the 60s the Blickenderfer Foundry did much of the work for the famous Henry Martin Brick Machines and this work has been carried on up to this time, the Lancaster Iron Works having taken over the Blickenderfer Foundry. The plant consists of foundry, plate shop and machine shop of suitable size and equipment to take care of any volume of business that may be developed in the clay machinery line.

James P. Martin, of Lancaster, Pa., is manager of the Clay-working Machinery department. Mr. Martin was tutored by his father, the late Henry Martin, and was



JAMES P. MARTIN
Manager Clayworking Machinery De-
partment, Lancaster Iron Works,
Lancaster, Pa.

interested in the Henry Martin Brick Machine Mfg. Co. for many years and has always been active in the clay machinery business, having designed and built many large clay products plants, and has also brought out various clay products machines of his own original design.

A complete line of clayworking machinery will be developed and there will be a development of the famous Martin soft-mud brick machinery. It will be to the advantage of the clay products manufacturer to watch the advertising campaign of the Lancaster Iron Works and more especially to consult with them regarding their machinery requirements.

Advertising

Perhaps all advertisers are offered the service of experts who can write with a "pull" or a "push," who can intro-



The Leeds & Northrup Optical Pyrometer in Use

Temperatures at Sight

The temperatures of incandescent or glowing bodies are read with great accuracy by inexperienced operators using the Leeds & Northrup Optical Pyrometer.

The operator sights at the hot object through a small telescope held in the hand.

The filament of a small tungsten lamp is seen against the background of the hot object. The operator regulates the current through the lamp by turning a rheostat in the battery box until the filament merges with or disappears against the background.

The current flowing through the lamp is read on the milliammeter mounted on the battery box. This current indicates the temperature of the hot object.

A large surface to sight upon is not required, nor does the distance from the hot object matter.

The comparison is made in light of one color only, therefore the ability to match colors and color blindness have no effect upon the reading.

The adjustment of current by the operator is unconsciously one of great precision, as the light varies much more rapidly than the temperature and the eye is very sensitive in comparing the brightness of surfaces superposed, one upon the other.

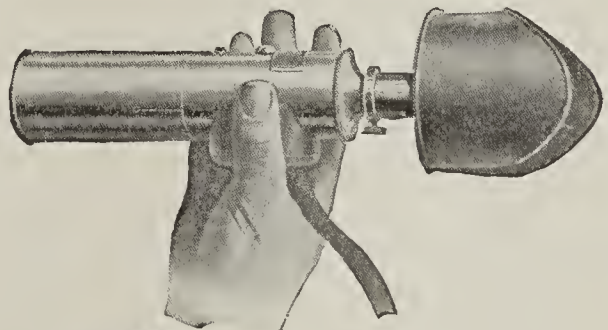
Different observers agree within 3° C. when using the Leeds & Northrup Optical Pyrometer.

State conditions of proposed use, and full particulars, including descriptive Bulletin M will be supplied.

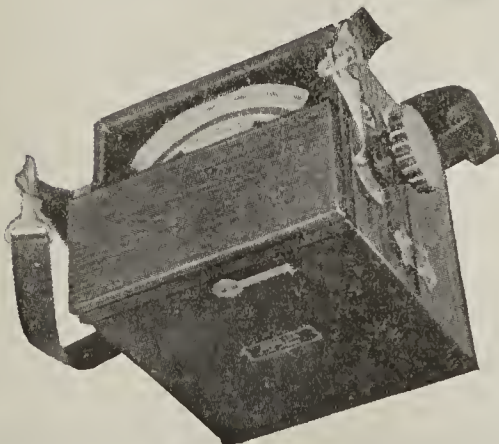
THE LEEDS & NORTHRUP CO.

4909 STENTON AVE. PHILADELPHIA, PA.

21



The Leeds & Northrup Optical Pyrometer.



Case containing storage battery, rheostat and milliammeter for Leeds & Northrup Optical Pyrometer.

For Sale—

Equipment Supplies and Materials

FROM an overstock of general construction and mill supplies, we offer for immediate shipment, subject to prior sale, the following:

Iron and Steel Products

Machinery of all kinds
Locomotives
Engines
Water Tube Boilers
New 100 H. P. Turbine
Tanks
Sheet Iron
Pipe
Pipe Fittings
Plates and Angles

Electrical Equipment

Electric Motors
Generator Sets
Copper Wire
Refrigeration Machinery

Hardware Supplies

Hardware of all kinds
Lumber
Roofing
Paints and Oils
Nails
Bolts
Brass and Iron Screws

Miscellaneous

Chemical Supplies
Mixing Machines
Wringers and Presses
Steel Beds and Bedding
Work Uniforms
Woolen Shirts
Shoes

This is a partial list of the materials that we have on hand. If you need anything in these or similar lines write us. We may have exactly what you want. We will submit specifications and prices promptly. Please be careful to address

X. M. S. Department

Hercules Powder Co.
Wilmington, Del.

duce catchy phrases or a certain kind of display to attract attention.

The writer returned from the convention in Pittsburgh in possession of various and sundry suggestions upon the subject; one that we particularly recall was that exaggeration was expected in advertising. According to this authority, the public would not accept statements made in an advertisement at their face value, but would consider that each statement contained only a modicum of truth.

We do not pretend to know the varied and devious ways of securing attention, but we are afraid the logical inference from the above suggestion would get us into deep water.

We are not yet convinced that the public takes any such view, and would be sorry if we were.

It reminds me of a great character, reported to live in Eatonton, Ga., whose name is Uncle Mose. He is a colored Democrat and he practically owns the town. Coming down in the morning, he calls by Marse John's home and inquires of the health of Miss Sally and little Missy. Passing on to Marse John's place of business, he enters, calling out "Moronin', Marse John." "Good morning, Uncle Mose. How are you?" "Des fine, thankee, Marse John. Des fine. En, Marse John, I des cum by de big house to ax Miss Sally and little Miss, 'howdy.' Ise knowed Miss Sally since she was bawn. She us de finest young lady in Putmon (Putnam Co.) and she's de finest lady yere now, ceppin little Missy. Fo' God, Marse John, dats de sweetes chile old Mose ever seed. Is you got a quarter handy Marse John?" "Thankee, Marse John, thankee a thousand times." "Not at all, Uncle Mose. The pleasure's all mine, if you really feel that you are telling the truth." "Marse John, you knows me. Ise been tellin' de trufe since de time I fus voted de Demmycrat ticket for Marse Tildem in '76 and Ise gwinter stick to her till I quit de Demmycrats an jines de Publicans."

Yours truly, M. M. Minter.

(Editor's Note.—In sending us the above letter for publication, Mr. Minter also stated: "This story brings out a point in our advertising upon which my partner is very sensitive. Being a man of experience, he insists that we make no claims whatever beyond demonstrated facts in practice." Secure in this knowledge that the claims made for The Minter System are not mere claims, but actual demonstrated facts, clay-products manufacturers need have no hesitancy about investigating the system.)

✂ ✂ ✂

"Osgood 18 In."

A new bulletin, S-904, has just been issued by the Osgood Company, Marion, Ohio, telling about their Osgood 18 Railroad Ditcher. Specifications of this ditcher are given, and a number of interesting illustrations showing the ma-



Osgood 18 Railroad Ditcher

chine in actual operation. The descriptive matter goes into considerable detail, telling of the strength and superior features of various parts of the ditcher.

If you want a copy of the bulletin just write to the Osgood Company.

✂ ✂ ✂

The Alliance Brick Co., Alliance, Ohio, state that their shipments for January and February, 1919, exceed by more than thirty per cent. the shipments made in these two months in any previous year since they went into business in 1910.

They are thoro believers in the value of printers' ink, and see to it that their product (Alliance Ruff Brick and Alliance Ruff-Face Building Tile) is kept before the eyes of the building public.

BRICK and CLAY RECORD

Copyright 1919, by Kenfield-Leach Company

Entered as Second Class Matter January 2, 1911, at
the Post Office, at Chicago, Ill., Under
the Act of March 3, 1879.

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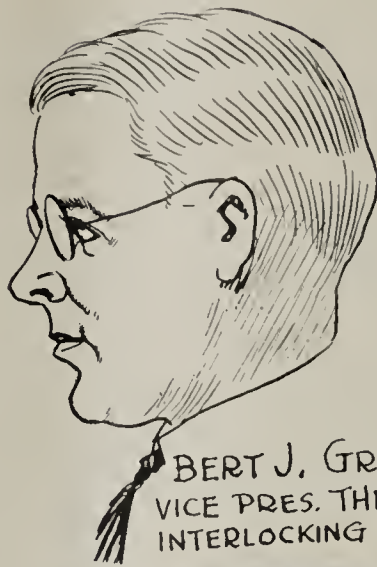
The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups," to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

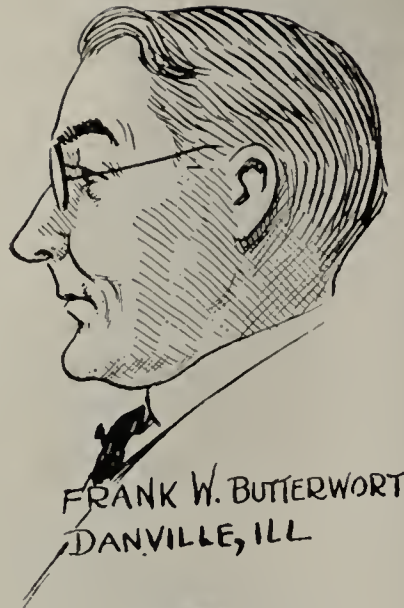
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NEW MERRELL



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SEC'Y HOLLOW
BUILDING TILE ASS'N



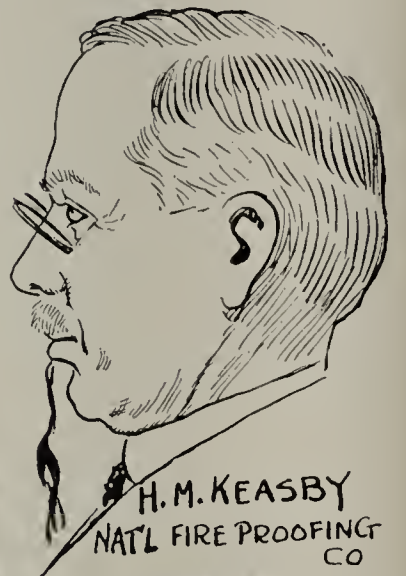
BERT J. GRAHAM
VICE PRES. THE DENISON
INTERLOCKING TILE CORP.
CLEVELAND,



FRANK W. BUTTERWORTH
DANVILLE, ILL



H. C. DOWNER
MALVERN FIRE
CLAY COMPANY
MALVERN, OHIO.
RE-ELECTED PRESIDENT
HOLLOW BUILDING TILE
ASSOCIATION.



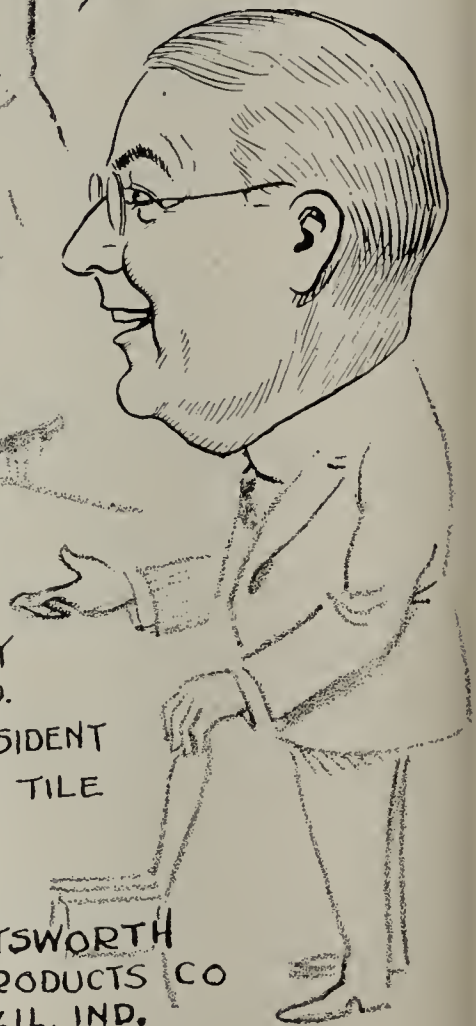
H. M. KEASBY
NAT'L FIRE PROOFING
CO



WILLIAM HUTTON JR.
PRESIDENT TROY
FIRE PROOFING CO
TROY, N.Y.



FRANK R. HALE
TERRA HAUTE, IND.



H. H. TITSWORTH
CLAY PRODUCTS CO
BRAZIL, IND.

It Is Easy to Understand Why Our Assiduous Artist Was So Successful in His Efforts to Sketch the Above Notables Attending the Hollow Building Tile Association Meeting in View of the Fact That He Had Such Handsome Specimens to Work On. If Space Were Available We Could Go on Indefinitely for There Were Plenty of Characters to Choose From But the Above Shows a Representative Group. The Smiling Countenances Indicate That Things Are Beginning to Open Up Again and Something Good Is Promised for the Near Future.

HOLLOW TILE HOLDS FIRST ANNUAL

A Large and Representative Gathering Marks First Convention at Chicago, March 19 and 20—Association Decides to Enlarge Board of Directors—Plans to Expend Huge Sum for Advertising and Publicity—H. C. Downer Re-Elected President

IT SEEMS just a little bit odd to talk about the first annual meeting of the Hollow Building Tile Association, especially when it is remembered that hollow tile manufacturers undoubtedly accomplished more in an organized way during the war than any other branch of the clay products industry. However, it is true that the meeting which took place on March 19 and 20 at the Hotel La Salle, Chicago, was the first annual convention of the Hollow Building Tile Association, and as such, was a very auspicious "kick off" for the organization.

THE BEGINNING

It will probably be remembered by many that on March 28, 1917, a large body of manufacturers gathered at the Statler Hotel, in Cleveland, and discussed the advisability of organizing the Hollow Building Tile Association. At that meeting there was presented a plan of organization which carried with it maximum support to the amount of about \$12,000 per year. After a full and free discussion by the fifteen or twenty manufacturers present, the present plan of organization was adopted and a board of directors elected. It was seen that an association to be successful must represent every manufacturing district in the country, and it was realized that a membership less wide-spread would make the organization in a large measure a failure. Therefore, from April to July 1, 1917, a campaign was carried on in all parts of the country, except the Pacific slope.

On July 1, 1917, the office of the association was opened in the Conway Building, Chicago, with E. R. Sturtevant as secretary, and the organization began to operate.

REALLY IN OPERATION ONLY EIGHT MONTHS

From January 1, 1918, to January 1, 1919, association work, as such, was discontinued and the entire efforts of the industry, the board of directors and the secretary, were devoted to war work under the auspices of the War Service Committee, so that actually the Hollow Building Tile Association has been in existence only eight months, as the year 1918 cannot be counted so far as actual association work is concerned. The War Service Committee, however, was an accomplishment of the Hollow Building Tile Association.

The association now has a membership extending from New York and New Jersey to Texas. It is divided into seven group organizations based on actual geographical boundaries. It is truly representative in its character and has, to a very certain extent, the national viewpoint. This organization has clearly proved that the hollow building tile industry is national in character, and in no way can be considered as local either in its interests or in its problems.

GETTING A COMMON VIEWPOINT

It was clearly recognized by the board of directors that during the first year or two in an industry which has been intensely individualistic in its viewpoint and in which the spirit of cooperation had never been fully developed, the most important problem confronting the association was the development of a common viewpoint and common interest, and the wide-spread feeling in the industry that only thru cooperation would the industry itself progress and prosperity result. Therefore, time and effort has been spent in developing such a spirit and success has been attained. The industry has come to itself and realizes as never before, that only thru united action and united effort can vital problems confronting it be coped with successfully. In addition to the development of the spirit of cooperation, the association has in the very few months of its active operation, a good record of accomplishment.

BUILDING CODE WORK

In the first place, the importance of improved regulations covered by the building codes of the large cities in the United States was recognized immediately and in August, 1917, the board of directors authorized the establishment of a building code department and the services of John A. Ferguson, of Pittsburgh, were secured to help in that work. During the few months he was with the association negotiations were started with the building departments of forty different cities and two states, affecting in all about fifteen million people. During the year 1918, this work was discontinued but was started again March 1, 1919. The board of directors has secured the services of H. S. Brightly, who has again started work with the building departments in the various cities in a most energetic manner. Since the inception of this organization it has pushed building code work as energetically and as forcefully as possible with the funds in hand.

THE INSURANCE RATE PROBLEM

Second, the board of directors also started immediate negotiations with the Underwriters Laboratories, looking to a complete and authoritative investigation of the fire resistive qualities of hollow building tile to the end that the discrimination against that material by insurance companies might be removed. This was discontinued in March, 1918, but is being started again. In this connection it should be stated that it is both an important and vital problem which should be approached only with the most careful consideration and with the most careful thought and investigation by association engineers. The results, either favorable or

unfavorable, will be permanent and will be reflected in insurance rates and it is believed that the hollow building tile industry should know what it is doing as it enters upon its investigation.

A PROPER STANDARD SPECIFICATION

Third, the board of directors of the Hollow Building Tile Association has recognized the lack of authoritative and well devised standards with regard to building tile. This lack of standards soon demonstrated itself to be a real handicap in the attempt of the association to do building code work. Therefore, the board gave its support and encouragement to Committee C-10 of the American Society for Testing Materials, and has been aiding that committee in carrying on its work to secure a proper standard specification. This work was discontinued during 1918 but at the February, 1919, meeting the board of directors appointed a standing committee on standards, which together with the engineer will push thru this very important aspect of the association work to a successful conclusion. The American Society for Testing Materials is understood to be reorganizing committee C-10 and it is almost certain that the results of the work of this committee will be published just as soon as it is possible to complete it. Such work, however, is slow in development and results cannot be obtained in a few weeks.

OPEN PRICE

Four, the board of directors, realizing the importance of satisfactory market conditions, and the chaos and trouble caused by cut-throat competition, has started an investigation of the best method of securing wide-spread information of market conditions which would enable each manufacturer to act intelligently, and which, it was hoped, would stabilize market conditions. After careful consideration in negotiations with several organizations, the board was about to suggest to the manufacturers the method of handling these vital problems when the work was discontinued again in 1918. At the meeting of the board in February, 1919, it established a standing committee on market relations, and this committee has established a department of market reports, the details of which are being submitted to the membership now for their acceptance.

FREIGHT RATES

Five, the entire subject of freight rates and traffic conditions has been given very careful consideration by the association. It is evident that the traffic problem is as wide as the industry and that it is one constantly presented. Therefore, there has been established a standing committee on traffic and transportation, such committee having power to act for the association. This committee joined with the similar committees for the National Paving Brick Manufacturers' Association, and the American Face Brick Association, on a joint protest against General Order No. 28, and has just entered into another joint agreement for handling the traffic problems which are common to each organization.

ADVERTISING AND PUBLICITY

Six, it was clearly recognized also, that the association must increase the demand for its product if it was to progress in a satisfactory manner. Therefore, the board has established a promotion and publicity department and employed C. L. Rorick, of Chicago, as manager. It was found that the income of the association was hopelessly inadequate and that no funds were available for the purchasing of advertising space in the magazines and so the department was forced to use every device possible for securing publicity without cost. The efforts of Mr. Rorick have been untiring,

resourceful and thoroly successful. This department was again discontinued during 1918, both because of the war and because of the illness of Mr. Rorick. It was started again when the office in Chicago was reopened in December and the same efforts were continued. This department, however, has reached the end of its "rope" and further funds must be available if the association is to continue its efforts along this line.

FORMATION OF THE WAR SERVICE COMMITTEE

Seven, during the winter months of 1918 a committee of the board of directors interviewed various government officials for the purpose of making an agreement by which the government's need for tile would be allocated thru the War Service Committee. The committee met with a friendly reception. Its efforts were successful and the association was requested to organize a War Service Committee for the purpose of assisting the government to secure efficiently and economically the tile it needed. Notices were sent out to all manufacturers in the industry and a meeting was held in February 1918 at which time the board of directors was elected as a War Service Committee. The board went to Washington, completed arrangements, and on the first of March 1918 began to allocate orders. The building tile committee was the first to organize on that basis and its ability to organize was due absolutely to the existence of the Hollow Building Tile Association and to the fact that it was a coherent, united body which knew what it wanted and asked for it in a plain, clear, specific manner. As a result of the early organization of the War Service Committee, the industry was able to secure a very large amount of business which might have gone to some other material and it was able to secure from the government a fair price which was of untold benefit to the entire industry during 1918. At a meeting in Atlantic City, June 1918, the committee was reorganized and at its first meeting after reorganization, immediately authorized a complete reorganization of the committees' office in Washington. This organization was very successful in its efforts and thru the efficient service it was able to render, the government was using a larger and larger amount of hollow building tile so that if the war had continued this industry would have been in a most favorable situation and would have furnished much increased quantities of material.

From March 1, 1918 to December 1, 1918, the War Service Committee handled thru its office, over two hundred thousand tons of tile, and the outlook at the signing of the armistice was most favorable.

BOARD PLANNING BIGGER WORK

The fixing of the price on tile by the government for its purchase not only prevented cut-throat competition, but also stabilized the commercial market to a most marked degree.

The board of directors has recognized that the funds secured by the association on a basis of two cents per ton are not sufficient for extensive and complete association work. It has given careful consideration to the future and its needs and as a result it has instructed the secretary to prepare a program covering cooperative effort. This program was prepared and it has been sent to every manufacturer in the industry. The board was of the opinion that, since the industry was facing a period of reconstruction and the efforts which must be made for the maintenance of the industry on a successful basis, and in order that the industry may take advantage of the recognition accorded it by the government during the war period, and in order that it may successfully meet the competition of other organized industries, that it will be necessary to place the dues at fifteen cents per ton, and therefore, Secretary Sturtevant was au-

thorized to prepare new agreements on that basis and such have been submitted to the hollow tile manufacturers.

This is the history of the work of the Hollow Building Tile Association to date, and the situation as it existed at the convening of the first annual meeting in Chicago which took place on Wednesday morning, March 19, with a very substantial attendance of hollow tile manufacturers, nearly every district in the United States being well represented.

The opening morning was largely devoted to the discussion of the freight rate situation, by M. F. Gallagher, of the firm of Gallagher, Kohlsaat & Rinaker, Chicago, one of the two attorneys who have been retained by the paving and face brick, as well as hollow building tile manufacturers. Mr. Gallagher explained the situation down to date with regard to developments in Washington concerning freight rates on building tile as well as brick. Some exceedingly important conferences will be held in Washington, the results of which may be announced in the next issue of *Brick and Clay Record*.

PROMOTION AND PUBLICITY WORK

The afternoon session on Wednesday, March 19, was given over to a discussion of publicity, promotion and advertising. W. D. James, general manager of the James Manufacturing Co., Fort Atkinson, Wis., talked at length and told a wonderful story of what advertising had done for his business. The most interesting part of his message was that in which he appealed to the building tile manufacturers for aid and cooperation in the solution of the ventilation problem in farm barns. This work will undoubtedly be taken up by the association engineer and a solution found that will permit the extensive use of hollow building tile in connection with a good ventilation system in every farm building erected in the United States. Mr. James was followed by C. L. Rorick, and also by W. H. Rankin, as well as Herbert Everett, all of whom spoke on different subjects of advertising.

The association is working hard on the promotion and publicity campaign which will involve a large sum of money

and in support of which at least three-fourths of the necessary support has already been signed up for a beginning. Concentrated effort is being put on the remaining manufacturers who ought to come to the association agreement and who no doubt will come in in a very short time, making it possible for the association to launch its campaign.

OFFICERS ELECTED FOR ENSUING YEAR

Thursday, March 20, was devoted to open discussion of the work of the association and its future. H. C. Downer, of the Malvern Fire Clay Co., of Malvern, Ohio, was elected president for 1919 and the following were elected as vice-presidents and directors, having previously been nominated by their various districts: H. N. Keasbey, of the National Fire Proofing Co., New York City; H. H. Camp, Camp Conduit Co., Cleveland; Frank R. Hale, Vigo-American Clay Co., Terre Haute, Ind.; J. T. Howington, Coral Ridge Clay Products Co., Louisville, Ky., and B. C. Keeler, Mason City Brick & Tile Co., Mason City, Iowa.

In addition to the election of these officers, a committee was appointed which recommended that the Board of Directors be enlarged from seven to thirteen including the president and suggested the names of several manufacturers who might serve as directors at large.

The convention closed with a discussion on cost accounting. It was felt that the association ought to do something definite in this matter at an early date. The forms already compiled by the Federal Trade Commission and which most manufacturers have, will be redistributed, and an effort made to compare costs in the future. It was the sense of the meeting that action should be taken to establish in a permanent manner some means of exchanging cost data.

MANUFACTURERS IN ATTENDANCE

The following manufacturers were in attendance at the annual meeting:

H. C. Downer, Malvern Fire Clay Co., Malvern, Ohio.
G. O. French, Big Four Clay Co., Canton, Ohio.
H. F. Banfield, Banfield Clay Co., Irondale, Ohio.
H. M. Keasbey, National Fire Proofing Co., Pittsburgh and New York.



That There Was Plenty of Activity at the Meeting Is Obvious From the Nature of the Sketches. We Are Not Certain Just Why Our Artist Chose to Represent Mr. Neiswanger in the Pose He Holds. Perhaps the Gavel Just Sounded and "Fresh Air" Was in Order.

V. L. Yepsen, National Fire Proofing Co., Pittsburgh and New York.
 W. M. Councill, National Fire Proofing Co., Pittsburgh and New York.
 C. C. Baird, National Fire Proofing Co., Pittsburgh and Chicago.
 G. C. Sparrer, National Fire Proofing Co., Pittsburgh and Chicago.
 F. F. Anness, Anness & Potter Fire Clay Co., Woodbridge, New Jersey.
 W. H. Hutton, Jr., Troy Fireproofing Co., Troy, N. Y.
 W. J. Burke, American Clay Products Co., 175 Fifth Ave., New York City, N. Y.
 Eben Rodgers, Alton Brick Co., Alton, Ill.
 R. L. Murnagh, Alton Brick Co., Alton, Ill.
 D. C. Haeger, Haeger Brick & Tile Co., Aurora, Ill.
 J. T. Howington, Coral Ridge Clay Products Co., Louisville, Ky.
 B. J. Crowder, Hamilton Clay Co., Hamilton, Ill.
 H. H. Titsworth, Clay Products Co., Brazil, Ind.
 H. H. Potter, Clay Products Co., Chicago, Ill.
 A. Van Schenck, Wm. E. Dee Co., Stock Exchange Bldg., Chicago, Ill.
 J. M. Powell, Indiana Drain Tile Co., Brooklyn, Ind.
 T. J. Neiswanger, Harvey Brick & Tile Co., Harvey, Iowa.
 R. F. Williams, Athens Brick & Tile Co., Athens, Texas.
 C. C. Roney, Miller & Coulson, Pittsburgh, Pa.
 F. W. Butterworth, Western Brick Co., Danville, Ill.
 J. W. Robb, Clinton Paving Brick Co., Clinton, Indiana.
 Grover Galvin, Rockford Brick & Tile Co., Rockford, Iowa.
 W. H. Brossman, Albion Brick Co., Albion, Ill.
 R. W. Raftis, Illinois Fireproofing Co., 208 So. La Salle St., Chicago, Ill.
 Frank R. Hale, Vigo-American Clay Co., Terre Haute, Ind.
 E. W. Farr, The Barkwill-Farr Co., Cleveland, Ohio.
 J. M. Beville, The Barkwill-Farr Co., Cleveland, Ohio.
 Mr. Dawson, The Barkwill-Farr Co., Cleveland, Ohio.
 Bert J. Graham, Denison Interlocking Tile Corp., Guardian Bldg., Cleveland, Ohio.
 C. C. Whitacre, Whitacre-Greer Fireproofing Co., Chicago, Ill.
 F. H. Tittington, Argillo Works, Rock Island, Ill.
 J. J. Amos, Humboldt Brick Mfg. Co., Humboldt, Kansas.
 H. E. Taylor, Kankakee Tile & Brick Co., Kankakee, Ill.
 W. H. McCarthy, 133 W. Washington St., Chicago, Ill. (Dealer).
 Mr. Montgomery, Wisconsin Lime & Cement Co., 133 W. Washington St., Chicago, Ill. (Dealer).

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Protest Against Prison-Made Brick

A protest against the employment of prisoners in the manufacture of paving brick at the state brick plant, at Junction City has been made to Governor Cox by a special committee representing the Ohio Paving Brick Manufacturers' Association. The committee is composed of C. C. Bliss of the Metropolitan Brick Co., J. L. Murphy of the Hocking Valley Brick Co., and F. L. Manning of the Peebles Paving

Brick Co. The committee urges the abandonment of the Junction City plant which has been operated for five years under lease and which the State Board of Administration plans to purchase. The protest was referred by the governor to the Board of Administration and a reply will be prepared by H. S. Riddle, president of the board. He will answer the charges that prison-made brick are of inferior quality.

The protest holds that whenever a prisoner is used for the manufacture of brick a free laborer is kept out of just so much work. Ohio ranks as one of the leading states in the manufacture of paving brick, producing about one-third of the supply of the United States. The market for Ohio made paving brick has been curtailed because of freight rate advances and now a greater part of the product must be sold in Ohio or nearby and thus the pinch of the competition of the state brick factory is felt keenly.

It is charged that prison-made brick do not come up to the standard of specifications of the Ohio Highway Commission and cites that in tests for abrasion the average loss of prison-made brick was 26.41 per cent. while the maximum loss allowed by the commission is 22 per cent. These brick are therefore 4½ per cent. beyond the limit and would not be accepted anywhere with other paving block, is the statement in the protest. Answering the statement that prisoners would be idle if not employed in brick making it is said that it is better to have idle prisoners than idle citizens.

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A matter of interest in the eastern territory is the list of commodities as now arranged by the French High Commission, specifying the goods which may be sent to France without an import license abroad or any other formality. Among the items is included earthenware, with subdivisions covering ceramic tiles and blocks of plain and fine clay, crockery of common or stanniferous clay, unmolded or unvarnished earthenware, drain pipes, stone-ware for chemical, household and other uses; glass and crystal are also included.

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The Laclede-Christy Clay Products Co., St. Louis, Mo., has just celebrated the passing of another milestone in the history of the company—its seventieth birthday. Since 1844 the company has grown to be one of the largest manufacturers of refractories, and is still climbing. "The Customer Be Pleased!" has been chosen for the 1919 motto of the Laclede company.



ROSTER of A. C. S. MEETING at PITTSBURGH

REPORTS OF THE ANNUAL CONVENTIONS held by several of the national clay products associations consumed considerable space in both of the February issues of *Brick and Clay Record*. In fact, so much space was required by these reports, all of which were very comprehensive, that several splendid articles along with other matter had to be omitted in the above issues. Among the items omitted was the roster of the American Ceramic Society convention, which met on February 3, 4 and 5, at Pittsburgh, Pa.

This year's meeting was so unusually eventful that it would be a serious error, indeed, if we failed to tell who was there to help make the occasion such an epoch-making and successful convention that it proved to be.

For a complete account of the meeting refer to the February numbers of this magazine. If you will look over the

list printed below you will find in it representatives of firms that are leaders in their respective fields of the ceramic industry.

C. F. Geiger, Pittsburgh, Pa.
 G. P. Fisher, United States Army, Columbus, Ohio.
 R. D. Landrum, Harshaw, Fuller and Goodwin Co., Cleveland, Ohio.
 A. W. Kimes, National Glass Budget, Pittsburgh, Pa.
 John W. Sanders, U. S. Stamping Co., Moundsville, W. Va.
 August Staudt, Perth Amboy Tile Works, Perth Amboy, N. J.
 Harold R. Savage, Norton Co., Worcester, Mass.
 George H. Brown, Rutgers College, New Brunswick, N. J.
 E. H. Fritz, Westinghouse E. & M. Co., Pittsburgh, Pa.
 R. M. Long, U. S. Bureau of Mines, Columbus, Ohio.
 L. H. Cole, Department of Mines, Ottawa, Canada.
 A. A. Van Cleave, Grand View Fire Clay Mines, St. Louis, Mo.
 R. K. Hursh, University of Illinois, Urbana, Ill.
 M. E. Gregory, Brick, Terra Cotta & Tile Co., Corning, N. Y.
 J. S. Laird, University of Michigan, Ann Arbor, Mich.
 R. W. Greene, Mgr., Kentucky Construction and Improvement Co., Mayfield, Ky.
 J. S. Unger, Pittsburgh, Pa.
 F. L. Steinhoff, BRICK AND CLAY RECORD, Chicago.

- E. K. Koss, Ohio State University, Columbus, Ohio.
H. D. Callahan, Ohio State University, Columbus, Ohio.
H. E. Rub, Ohio State University, Columbus, Ohio.
H. Dan Smith, Smith & Phillips China Co., E. Liverpool, Ohio.
Norman G. Smith, Maine Feldspar Co., Brunswick, Me.
A. F. Hottinger, Northwestern Terra Cotta Co., Chicago.
W. J. Bowman, Trenton Fire Clay Co., Trenton, N. J.
J. E. McAllister, Trenton Fire Clay Co., Trenton, N. J.
O. O. Bowman, Trenton Fire Clay Co., Trenton, N. J.
D. E. Sharp, Spencer Lens Co., Hamberg, N. Y.
W. Titsworth, New York State School of Clayworking and Ceramics, Alfred, N. Y.
I. A. Williams, U. S. Bureau of Mines, University of Washington, Seattle, Wash.
J. M. Kreger, The Monument Pottery Co., Trenton, N. J.
A. W. Evans, Zanesville, Ohio.
H. S. Kirke, Universal Sanitary Mfg. Co., New Castle, Pa.
H. I. Darlington, Pennsylvania Salt Mfg. Co., Pittsburgh, Pa.
S. R. Scholes, H. C. Fry Glass Co., Rochester, Pa.
G. F. W. Price, Building Department, Toronto, Canada.
W. F. Zimmert, Pfandler Co., Rochester, N. Y.
J. B. Doirs, S. S. White Dental Mfg. Co., Philadelphia, Pa.
W. E. Emley, Bureau of Standards, Washington, D. C.
Carl B. Harrop, Ohio State University, Columbus, Ohio.
Wm. H. Sheaman, New Jersey Zinc Co., New York City, N. Y.
G. F. Dufour, Hamilton, Ohio.
Hewitt F. Wilson, Ohio State University, Columbus, Ohio.
S. C. Linbarger, Carborundum Co., Niagara Falls, N. Y.
Chas. O. Grafton, Gill Clay Pot Co., Muncie, Ind.
Elza F. Heistand, Gill Clay Pot Co., Muncie, Ind.
E. P. Poste, Elyria Enameled Products Co., Elyria, Ohio.
M. F. Beecher, Norton Co., Worcester, Mass.
J. E. Pool, Atlas Powder Co., Wilmington, Del.
J. B. Blewett, McLain Fire Brick Co., Wellsville, Ohio.
D. A. Moulton, McLain Fire Brick Co., Wellsville, Ohio.
M. McNaughton, Jos. Dixon Crucible Co., Jersey City, N. J.
J. E. Thomsen, Jos. Dixon Crucible Co., Jersey City, N. J.
Chas. S. Palmer, Mellon Institute, Pittsburgh, Pa.
E. W. Tillotson, Mellon Institute, Pittsburgh, Pa.
Raymond D. Cooke, Columbian Enameled Co., Terre Haute, Ind.
A. T. Malm, Norton Co., Worcester, Mass.
R. L. Clare, Federal Terra Cotta Co., Woodbridge, N. J.
R. H. Minton, General Ceramics Co., Metuchen, N. J.
H. Worsham, Carrier Eng. Corporation, Buffalo, N. Y.
W. D. Richardson, Ceramic Supply & Construction Co., Columbus, Ohio.
F. A. Kirkpatrick, Bureau of Standards, Pittsburgh, Pa.
Chas. H. Stone, J. H. Herron Co., Cleveland, Ohio.
R. J. Montgomery, Bausch and Lomb Optical Co., Rochester, N. Y.
J. C. Kurtz, Bausch and Lomb Optical Co., Rochester, N. Y.
A. Silverman, University of Pittsburgh, Pittsburgh, Pa.
W. S. Williams, Pittsburgh, Pa.
G. W. Lapp, De Roy, N. Y.
C. E. Jackson, Warwick China Co., Wheeling, W. Va.
Geo. Brain, Universal Sanitary Mfg. Co., New Castle, Pa.
R. H. Lardin, Pittsburgh Plate Glass Co., Creighton, Pa.
Wm. Chell, Empire China Works, Brooklyn, N. Y.
C. Forrest Tefft, Darlington Clay Products Co., Darlington, Pa.
R. S. Zoppi, Buckeye Clay Pot Co., Toledo, Ohio.
C. A. Luter, Carr-Lowrey Glass Co., Baltimore, Md.
W. Cannan, Jr., Onondago Pottery Co., Syracuse, N. Y.
J. K. Moore, Capt. Chemical Warfare, United States Army.
R. T. Stull, Bureau of Mines, Columbus, Ohio.
C. J. Hudson, Norton Co., Worcester, Mass.
F. F. Gehrig, Detroit, Mich.
F. G. Collon, Cleveland, Ohio.
I. F. Dains, Western Stoneware Co., Monmouth, Ill.
A. C. Stepan, Roessler and Hasslacher Chemical Co., Chicago, Ill.
J. M. Manor, Golding Sons Co., East Liverpool, Ohio.
C. C. Ashbaugh, West End Pottery Co., E. Liverpool, Ohio.
W. E. Cumming, East Liverpool, Ohio.
J. C. Knowles, Knowles, Taylor and Knowles Co., East Liverpool, Ohio.
Herbert Goodwin, Salem China Co., Salem, Ohio.
Olaf Andersen, Government Geologist, Kristiania, Norway.
J. K. Cronin, Standard Pottery Co., East Liverpool, Ohio.
F. Carder, Steuben Glass Works, Corning, N. Y.
E. C. Sullivan, Corning Glass Works, Corning, N. Y.
Sidney I. Sewell, Bureau of Standards, Pittsburgh, Pa.
Richard C. Sant, The John Sants and Sons Co., East Liverpool, Ohio.
J. M. McClave, Cleveland, Ohio.
D. Brown, American Clay Machinery Co., Plymouth, Ohio.
S. B. Henshaw, Charleston, W. Va.
H. Bailey, New Castle, Pa.
C. Dittmar, Roessler and Hasslacher Chemical Co., Cincinnati, Ohio.
Chas. H. Cutler, Pittsburgh, Pa.
A. E. Blake, Mellon Institute, Pittsburgh, Pa.
Geo. E. Thomas, Highland Fire Clay Co., St. Louis, Mo.
H. H. Knowles, Knowles, Taylor and Knowles, East Liverpool, Ohio.
H. C. Kleymeyer, Standard Brick Mfg. Co., Evansville, Ind.
F. K. Pence, American Encaustic Tiling Co., Zanesville, Ohio.
J. D. Whitmer, American Encaustic Tiling Co., Zanesville, Ohio.
Chas. L. Casey, The Guernsey Earthenware Co., Cambridge, Ohio.
F. H. Rhead, American Encaustic Tiling Co., Zanesville, Ohio.
H. W. Fenton, Akron Smoking Pipe Co., Mogadore, Ohio.
M. J. Lynch, Knowles, Taylor & Knowles, East Liverpool, Ohio.
A. R. Bradshaw, The Owen China Co., Minerva, Ohio.
H. M. Reed, Std. Sanitary Manufacturing Co., Pittsburgh, Pa.
E. Hundley, French China Co., Sebring, Ohio.
H. E. Murphy, Saxon China Co., Sebring, Ohio.
C. A. Burton, Saxon China Co., Sebring, Ohio.
Geo. Barlow, East Liverpool, Ohio.
G. L. Joyce, Steubenville Pottery Co., Steubenville, Ohio.
Chas. F. Goodwin, Secy.-Treas., United States Potters Association.
E. P. Ogden, J. B. Owens Continuous Kiln Co., Zanesville, Ohio.
C. A. Walker, Homer Laughlin China Co., East Liverpool, Ohio.
I. A. Flower, Homer Laughlin China Co., East Liverpool, Ohio.
J. B. Elliott, Homer Laughlin China Co., East Liverpool, Ohio.
E. R. Crooks, Crooksville China Co., Crooksville, Ohio.
E. Wells, Homer Laughlin China Co., Newell, Ohio.
G. W. Shoemaker, Mohawk Clay Products Co., Perrysville, Pa.
R. J. Geller, Pittsburgh, Pa.
Myrtle E. Meritt, Pittsburgh, Pa.
F. B. Dunn, Dunn Wire Cut Lug Brick Co., Conneaut, Ohio.
S. B. Larkins, National China Co., Salineville, Ohio.
H. H. Larkins, National China Co., Salineville, Ohio.
B. E. Place, E. M. Freese & Co., Galion, Ohio.
C. B. Thwing, Thwing Instrument Co., Philadelphia, Pa.
W. J. Woods, Pennsylvania Pulverizing Co., Lewistown, Pa.
F. G. Lord, Pennsylvania Pulverizing Co., Lewistown, Pa.
P. R. Morris, Pittsburgh Plate Glass Co., Tarentum, Pa.
V. A. Giesey, National Refractories Co., Cleveland, Ohio.
E. F. Theobald, Columbus, Ohio.
D. M. Cronin, Standard Pottery Co., East Liverpool, Ohio.
G. K. Andersen, Philadelphia, Pa.
J. L. Buckley, Philadelphia Drying Machinery Co., Philadelphia, Pa.
S. Geijsbeek, Geijsbeek Engineering Co., Portland, Ore.
D. E. Humphrey, Goodyear Tire and Rubber Co., Akron, Ohio.
C. A. Cole, Syracuse, N. Y.
E. L. Hettinger, T. A. Wilson and Co., Inc., Reading, Pa.
G. T. Culbertson, Creighton, Pa.
H. M. Thompson, Hazel-Atlas Glass Co., Washington, Pa.
I. A. Kruson, Locke Insulator Co., Great Valley, N. Y.
W. M. Clark, National Lamp Works, Cleveland, Ohio.
C. B. Stone, Cleveland, Ohio.
C. Fridricksen, Wheeling Tile Co., Wheeling, W. Va.
Shen Hung, Ohio State University, Columbus, Ohio.
J. Foukormmer, Viko Mfg. Co., Pittsburgh, Pa.
V. S. Shorey, Standard Sanitary Mfg. Co., Tiffin, Ohio.
T. Dwight Tefft, Mosaic Tile Co., Zanesville, Ohio.
S. O. Conkling, Conkling-Armstrong Terra Cotta Co., Philadelphia, Pa.
H. A. Plusch, Abrasive Co., Philadelphia, Pa.
S. Y. Lin, Columbus, Ohio.
W. F. Brown, Pittsburgh, Pa.
N. L. Bell, Carnegie Steel Co., Wilkinsburg, Pa.
H. E. Maddock, John Maddock and Sons, Trenton, N. J.
Geo. Haaf, Pass and Seymour, Inc., Solvay, N. Y.
T. A. Klinefelter, Westinghouse Electric and Mfg. Co., Pittsburgh, Pa.
H. H. Hanna, Pittsburgh Plate Glass Co., Crystal City, Mo.
R. B. Gilmore, Vesuvius Crucible Co., Pittsburgh, Pa.
C. H. Zwermann, Zwermann Tunnel Kiln Co., Newark, Ohio.
Theo. Zwermann, Newark, Ohio.
J. B. Shaw, New York State School of Clayworking and Ceramics, Alfred, N. Y.
T. G. McDougal, Champion Ignition Co., Flint, Mich.
Rheinhardt Theissen, Bureau of Mines, Pittsburgh, Pa.
C. L. Sebring, Sebring Pottery Co., Sebring, Ohio.
J. C. Hostetler, Washington, D. C.
G. W. Keller, Brown Instrument Co., Philadelphia, Pa.
G. J. Niebuhr, Hanovia Chemical & Mfg. Co., Newark, N. J.
Thos. Sant, John Sant & Sons Co., East Liverpool, Ohio.
J. E. Randall, Clayworker, Indianapolis, Ind.
Fred Sauereisen, Empire China Works, Brooklyn, N. Y.
Otto W. Will, Roessler and Hasslacher Chemical Co., Perth Amboy, N. J.
Abel Hansen, Fords Porcelain Works, Perth Amboy, N. J.
R. A. Burns, Laclede-Christy Co., St. Louis, Mo.
A. F. Gorton, Buckeye Clay Pot Co., Toledo, Ohio.
W. F. Rochaw, Harbison-Walker Refractories Co., Pittsburgh, Pa.
J. Spotts McDowell, Harbison-Walker Refractories Co., Pittsburgh, Pa.
H. T. Bellamy, Western Electric Co., Chicago, Ill.
C. S. Linder, Pittsburgh Plate Glass Co., Pittsburgh, Pa.
R. H. Lardin, Pittsburgh Plate Glass Co., Pittsburgh, Pa.
A. H. Walden, National Carbon Co., Cleveland, Ohio.
M. M. McHose, McHose Clay Co., Perth Amboy, N. J.
H. W. Moore, Atlantic Terra Cotta Co., Perth Amboy, N. J.
R. M. Johnston, Jeffery-Dewitt Insulator Co., Huntington, W. Va.
A. V. Bleininger, Bureau of Standards, Pittsburgh, Pa.
C. C. Lin, Columbus, Ohio.
W. Walsh, New York City, N. Y.
B. M. Burchfiel, Mellon Institute, Pittsburgh, Pa.
C. C. Mitchel, Mineral Pt. Zinc Co., Depue, Ill.
W. S. Kupfer, American Dressler Tunnel Kiln Co., New York City, N. Y.
D. F. Stevens, Acme Brick Co., Danville, Ill.
E. T. Montgomery, Jeffery-Dewitt Co., Detroit, Mich.
H. Schmidt, Roessler and Hasslacher Chemical Co., New York City, N. Y.
H. E. Riess, The Vollrath Co., Sheboygan, Wis.
C. M. Franzheim, The Chas. M. Franzheim Co., Wheeling, W. Va.
R. F. Sherwood, New York State School of Clayworking and Ceramics, Alfred, N. Y.
D. H. Fuller, United States Bureau of Standards, Pittsburgh, Pa.
G. E. Crawford, New York State School of Clayworking & Ceramics, Alfred, N. Y.
Mark Sheppard, New York State School of Clayworking & Ceramics, Alfred, N. Y.

PRICE STABILIZATION *and* FREIGHT RATES—TRADE ISSUES *of the* HOUR

Uncle Sam Not Trying to Play Dictator—Price Stabilization Means Price Harmony and Consistency—Little Hope for Freight Rate Reduction—Shall the Domestic Trade Pay the Piper for the Export Dance?

By Waldon Fawcett

NEVER DURING THE TURMOIL of the war period were the goings on at Washington calculated to more sharply focus the interest of the clay products industry than are current developments. War-time curtailment of production has been succeeded as a live issue by a post-war readjustment program which aims, among other things, at "stabilizing" clay products prices as a stimulus to building. Running neck and neck with this entry for trade interest is the no less absorbing question of freight rates. Will they come down or must the bogey of a further advance be faced? This last is one of several conundrums bound up with a subject that goes to the very heart of the controversy over governmental versus private management and operation of the railroads.

The third week in March saw further conferences between representatives of the brick interests and the officials of the Construction Material Department of the newly formed Industrial Board of the Department of Commerce but the outcome was what might be summarized in the word "progress" rather than in arrival at conclusive results. The "volunteers" who are acting for the Government and the spokesmen who are speaking for the trade are not yet ready to take the whole industry into their confidence unreservedly. This is due partly to the fact that there is as yet nothing definite to announce. It is due in even greater measure to a conviction that there has been, as one executive puts it, "too much talk already."

There is a feeling in certain quarters that the road has been made rough for the project to equalize clay products prices by the premature and misleading reports that went out to the trade regarding the aims and functions of the new Industrial Board when that agency of business arbitration was first proposed. There is no question but what a great many men in the trade have, from this first impression, gained the suspicion that the whole undertaking is a scheme to cut prices and that, worse yet, it means Governmental dictation of which some of these self-same tradesmen feel that they had quite enough during the war period. No question but what that alarming first impression is causing many men in the trade to hang back.

PRICE STABILIZATION MEANS PRICE HARMONY

The first task, then, to which the Construction Material Department is addressing itself in this connection is that of convincing as many interests in the trade as can be

reached directly or indirectly that Uncle Sam is not trying to play dictator and that price stabilization means price harmony and price consistency between the various items in the construction material line rather than a slashing of prices right and left. Fortunately for the hope of a better understanding the conduct of the Construction Material Department is in the hands of practical, broad-minded men—Ernest T. Trigg, of the John Lucas Co. as director, and W. T. Rossiter, of the Cleveland Builders' Supply Co. as assistant director.

As a means of illustrating more clearly than could be done by lengthy speeches just what the clay products annex of the Industrial Board is seeking to accomplish, these volunteer executives have had prepared several charts or diagrams that show in graphic manner the disparity between the various classes of construction material. The purpose is to put before tradesmen at a glance the whole theory of how prices on one or two classes of construction materials, when out of alignment, may hold up the placing of contracts that would involve a wide range of material items in considerable amounts. A special chart in colors that hangs in the conference room at Washington shows the relation of the prices of common and face brick to the prevailing price on cement, etc., tho the officials say that this chart is not to be interpreted as necessarily saying that the brick prices are too high.

SAY PRICE EQUALIZATION IS IMPRACTICABLE

It would be something less than frank, however, to pretend that the only pessimism encountered in the contact between the clay products industry and the new Industrial Board arises from the misgivings of the tradesmen who fear that Uncle Sam is attempting to assume permanently the role of price-fixer that he betook unto himself temporarily as a war-time necessity. There are a number of men in the industry—and who have had part in the councils at Washington—who, while conceding that the Government is not trying to ram anything down the throat of the industry, nevertheless hold that price equalization is impracticable. These "conscientious objectors" would prefer to see arbitration boards, governmental or otherwise, keep their hands off entirely.

The skepticism of these dissenters is based on their belief that it is not going to be possible, any way you fix it, to reconcile the price necessities and the price limitations of

the low-cost and the high-cost plants in the industry. As they sense the present predicament, the Industrial Board cannot fix its stabilized price on the basis of the low-cost plants without giving all the business to the low-cost fellows. The interest with a high-cost of production simply cannot meet the fixed price however much it would like to. If, on the other hand, the new price-analyzing agency were to peg prices at points high enough to take care of the high-cost men—say at a level of several dollars a thousand in the case of brick above the minimum price—there would be a howl from consumers to the effect that the fixed price did not really represent bedrock and buyers would hold off in their purchases very much as they have been doing.

This wing of the clay products industry makes no bones of the fact that it wants to be left to work out its own salvation. Advocates of this course insist that the law of supply and demand can be counted upon to solve the problem and they want to rely on that. Countering this argument, the clay products manufacturers who support the ideal of the new Industries Board assert that the normal operation of the law of supply and demand cannot cure what it did not cause. For one thing, that law cannot operate, they say, until buying begins and for another thing, buying cannot begin until there is a more normal, stable and homogeneous market. Finally, they contend that even if the law of supply and demand would cure the situation eventually, the clay products industry cannot afford to wait.

While the officials at the Industrial Board have been very careful to emphasize that they are taking no snap judgment to the effect that the prices of clay products should come down, they do not conceal their conviction that with respect to construction materials in general prices must fall before buying will set in. Quotations "stabilized at the lowest reasonably expected level" is the objective in this quarter. If I interpret aright the spirit at the Industrial Board it is not the intention to allow the operator of the high-cost plant to set the pace for the entire industry, especially if there is a suspicion that the high cost is due to inefficiency rather than to any such factor as unfavorable geographical location. Similarly, is it the idea that some interests in the industry may have to take losses on raw materials purchased during an era of higher prices. However, it is represented that the benefits of trade stimulation, restoration of turnover to its old gait, and the distribution of overhead on a larger output will fully compensate a manufacturer for anything that he has had to write off in the matter of materials purchased at the higher levels.

A STABLE AND WHOLESOME SCALE OF PRICES

One big outstanding question that is uppermost in the minds of clay products manufacturers, even those who are most sanguine of the success of the new program, is that of the length of time for which the approved prices would be expected to "hold." Officials of the Industrial Board tell me that they are very hopeful that they can chalk up, with Uncle Sam's sanction and approval, a scale of prices that will hold for the remainder of the year, that is for the full building season of 1919. These officials, by the way, are strong in the belief that it would be unwise to attempt to introduce in the construction material field any such system of "guaranteed prices" as has been adopted, for instance, in the automobile field. They declare that manufacturers and dealers would be burdened and bothered out of patience with rebates and adjustments. They feel, tho, that if there can be recommended to the consuming public, basic prices that can be officially endorsed as fair and equitable, buying power will prove responsive all the rest of the year to that verdict nor will be disturbed in its commitments by such minor fluctuations as may occur here and there.

It is only fair to acknowledge that the men who have sidetracked their private business affairs to give their services for the common good of the industry have had too much practical experience to attempt to put over in the present crisis arbitrary or undigested prices. On the contrary, they are making, as a basis for their efforts in price stabilization, the most elaborate compilations of comparative building material prices in all the leading American markets covering a term of years and extending well back into the normal, pre-war interval. "A stable and wholesome scale of prices" is the goal upon which the eyes of these men are fixed but they do not delude themselves with the dream that a compromise can be reached that will be wholly satisfactory to every last individual in the industry. It will have to be a case of the greatest good for the greatest number.

What the champions of price stabilization as a remedy for business stagnation are most concerned about just now, however, is the spirit of antagonism in the industry by reason of the prejudice against Governmental meddling. They seem to think that, given time, they can win a majority of the interests in the industry to the cult of "shaken down" prices if only the industry will disabuse its mind of the suspicion that Uncle Sam is trying to extend paternalism and perpetuate the industrial bossism of war time. The business men who have enlisted for service at the Industrial Board insist and reiterate that the new project does not involve open or secret governmental control but merely governmental co-operation and assistance for business interests that are trying to chart a straight commercial course for squally weather.

FREIGHT RATES A VITAL FACTOR

It might be stretching the truth to say that what clay products men will do with regard to stabilized prices will depend on which way the cat of freight rates jumps but there is no denying that there is close connection between the two issues. The atmosphere would be cleared to some extent by a reduction in rates and yet it is admitted that this is almost too much to hope for in the face of the statement of the Director General of the Railroads that he does not expect to reduce wages and the confession that unless freight rates are advanced the roads will show an unpleasant deficit at the end of 1919. One proposal that has lately appeared on the horizon, clay products men are prepared to combat to the limit. This is the suggestion that railroad rates to Atlantic, Gulf and Pacific ports should be lowered to encourage the upbuilding of American export trade. Clay products manufacturers at Washington have made it clear to the U. S. Railroad Administration that whereas they have all good wishes for the export trade they do not see the justice of any arrangement that would make domestic trade pay the piper for the export dance.



C. N. C. P. A. Plans Big Convention

The Montreal members of the Canadian National Clay Products Association, met in the offices of the National Brick Co., Ltd., Montreal, on March 1 for organization purposes. N. T. Gagnon, a director of the association, occupied the chair. Secretary G. C. Keith, Toronto, attended the meeting and announced that arrangements had been made for many excellent papers.

Preliminary program was discussed and a full announcement regarding same will be made in an early issue. Included is a trip around the harbor, one of the finest on the continent, luncheon on the mountain, theater night and the annual banquet. Montreal is noted for its

hospitality and those who attend the convention May 26, 27, and 28, will have a most enjoyable time.

L. W. McArthur, Montreal, is chairman and treasurer of the Montreal committee. All sessions will be held in the Builders' Exchange rooms, 511 St. Catharine St. West. The banquet will likely be held in the Queens Hotel.



District No. 9 Holds Special Meeting

A most important meeting of common, face and paving brick manufacturers was held at the Neil House, Columbus, Ohio, recently. It was a meeting of District No. 9 as designed by the War Industries Board thru the bureau of building materials. The board is now charged to the peace industries board. The meeting was called at the request of the federal authorities in an effort to stabilize prices, more especially in common brick.

After discussing the costs and other matters pertaining to the production of brick it was the opinion of the meeting that prices under present conditions could not be materially reduced and some believed that they might go higher. It was decided that a fair and equitable price for common brick in the territory comprising the district should be \$12 per M for mud brick and \$14 per M for shale or sand mold brick. These prices are f. o. b. factory, which means

that there will be no immediate reduction. The relationship between common on the one hand and face and paving brick on the other hand will be maintained as in the past. It was decided that because of different textures, shades and other matters it was not feasible to fix a price on face or paving brick.

The section covers the states of Ohio, West Virginia and Eastern Kentucky. In all more than fifty brick manufacturers attended the meeting. J. G. Barbour, of Canton, presided, and H. F. White, salesmanager of the Hocking Valley Products Co., acted as secretary.



S. C. Karzen Back in the Fold

It is with considerable pleasure that *Brick and Clay Record* announces that S. C. Karzen, well known in the clay products industry thru the many valuable articles coming from his pen and which have appeared in this magazine from time to time, has returned from oversea service with the American Expeditionary Forces, having been discharged from the army on March 15. Mr. Karzen will reenter the employment of the American Sewer Pipe Co., and it is hoped will have something good to offer the many readers of this magazine in the way of an interesting article, at an early date.



LOCAL UNITS of ALLIED ASSOCIATIONS to MEET with ILLINOIS CLAY MANUFACTURERS

THIS YEAR'S MEETING of the Illinois Clay Manufacturers' Association promises to win the prize of the state association meetings held this year. A number of the local units of the various national associations have already agreed to meet in conjunction with the Illinois association, which will aid in making the convention one of large attendance.

Last year the experiment of having the various local units of national associations meet with the Illinois Clay Manufacturers' Association was tried out and it resulted in one of the most successful meetings ever held. Seven allied clay associations gathered under one roof in the same place at that time. This year the following units have agreed to take part in the forty-first annual of the Illinois Clay Manufacturers' Association: Illinois-Indiana Division of the American Face Brick Association, Illinois Drain Tile Manufacturers' Association, Indiana Brick Manufacturers' Association and the Chicago Section of the American Ceramic Society.

The Hotel La Salle, Chicago, on Wednesday and Thursday, April 9 and 10, will be the mecca of clayworkers belonging to the above organizations. For the first day a program is being arranged consisting of talks by experts, on subjects of general interest to all branches of the clay industry. Such subjects as "Wages in Their Relation to Living Costs," "Economies in Fuel Consumption by More Efficient Handling of Equipment Already Installed," "Application of Clay Products in Building," will be given attention. On Thursday morning the various organizations will hold their individual meetings and every one will then take luncheon together after which it is planned to visit the Underwriters' Laboratories, which is only a fifteen-minute ride from the Hotel La Salle. All sorts of materials, in-

cluding clay products, are tested at these laboratories for their fire resistive properties.

The meeting comes at a very opportune time because there are a great number of very important matters before the clay industry at present, chief of which is the question of prices. At the meeting of the Nebraska Brick & Tile Manufacturers' Association held recently they adopted the open price policy. The subject of prices is certainly one that interests every Indiana and Illinois manufacturer. Freight rates, wages for labor and local advertising are items which are being given more attention this year than ever before. If you are an Indiana or Illinois manufacturer of clay products you certainly want to be on deck. The convention is to be in the Windy City you know.



Real Activity Now Underway in East

There is a general awakening in the building construction field in all parts of New Jersey, and in fact, thruout the eastern section of the country. The past fortnight has developed a decided change in the situation and in many quarters real activity is under way. Inquiries are coming in, contracts are being let, material is being purchased and plans for early, if not immediate construction, brought to a definite head. This condition was bound to come, as has so frequently been prophesied in past months, and now it seems here. Architects and engineers at Newark, Trenton, Camden, Paterson, Jersey City and other important parts of the state are becoming busy; the high point of demand is apparently for dwellings and apartments, and the realty field from the selling of sites to the construction and completion of homes may well anticipate good times in the spring months now so near.

An interesting view in this connection is that expressed by Miles W. Beemer, secretary of the State Tenement House Commission, setting forth that in the increasing activity in the presentation of plans for new buildings for the approval of the commission, the projects for the most part are for the better classes of apartments. More and more attention, he points out, should be given to this type of building, as the great demand of the day is for moderate accommodations of this nature—a demand which is quite natural, considering that housing construction has practically been at a standstill for two years past.

* * *

Demonstration of Rural Truck Service

Formed for the purpose of stimulating the production of food articles by facilitating the marketing of them, the highway transport committee of the Council of National Defense has succeeded so well that its work is to be continued and expanded.

The rural truck lines, owned and controlled in many instances by farmers, gather daily from the farmers of their respective communities supplies of milk, fruits, vegetables, butter, eggs, live stock and all kinds of farm products, which are then taken to the city and marketed. The returning trucks bring back groceries, dry goods, tools and implements, household utensils and supplies to meet the needs of the various rural patrons. Each farmer's gate thus becomes his shipping platform.

Roy D. Chapin, member of the highways transport committee, has made the prophecy that within five years there will be a network of rural express lines on all the main highways of the country.

Last year the startling statement was made by Food Administrator Hoover that 50 per cent. of the perishable food products raised in the United States never reached the market, and that more than 60 per cent. of the potatoes produced meet the same fate owing chiefly to lack of adequate transportation facilities. It is the aim in establishing motor express routes to prevent this enormous waste of food.

The practical utility of the rural truck service was demonstrated last spring in Ohio in the handling of hot-house vegetables from Geneva and Ashtabula to Cleveland. Rapid and efficient highway transportation made it possible to move these perishable products in such a way that they were delivered to consumers while still fresh and inviting. The trucks on the line between these cities handled at different times 20,000 crates of berries, 25,000 bushels of tomatoes, 25,000 bushels of apples, peaches and beans and 800,000 baskets of grapes. Out of the many thousand baskets hauled records show that not a single basket was damaged or broken open.

* * *

Each Day's Delay Just So Much Profit Lost

Announcement from Columbus, Ohio, at the meeting of brick manufacturers from Ohio, West Virginia and eastern Kentucky that the high prices of brick are here to stay, sustained by the high cost of labor and materials, has led to some misleading views in Cleveland, Ohio. This has been partly set right here by the Barkwill-Farr Co., in its frequent announcements to the trade and consumers. Explanation is made that while prices will remain high, they are actually lower, as announced at the beginning of March, than they really ought to be. It is further explained that the present prices are as low as they are likely to get, hence will continue on that basis, providing they do not go higher.

This feature is being emphasized in a new line of "at-

tack" being used by the Barkwill-Farr Co. Neat cards, with the slogan: "Each day's delay means just so much profit lost," are being sent out to every possible client. The card also contains the present prices on brick and tile.

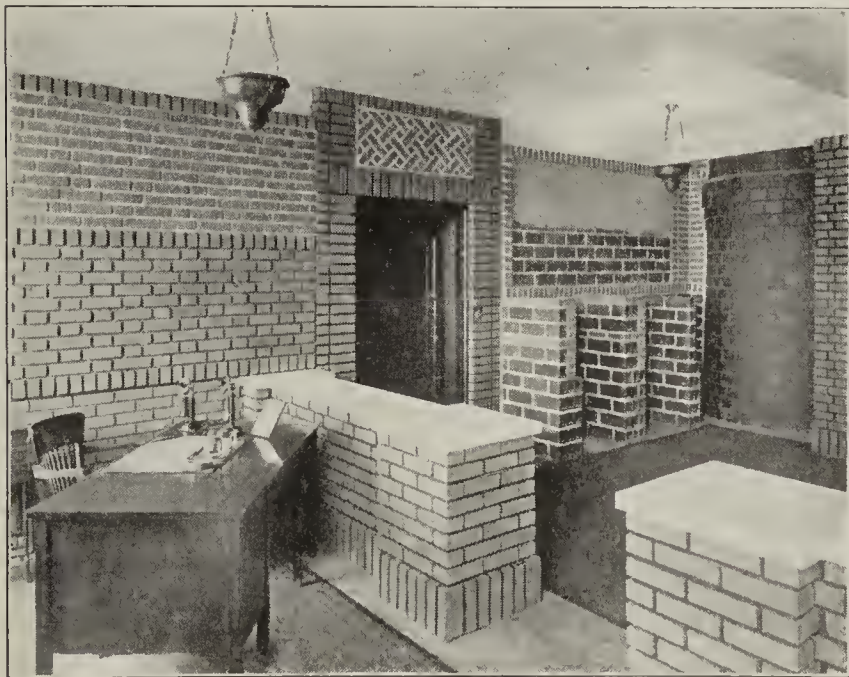
"This is getting good results," says J. M. Beville, manager of the promotion department of the Barkwill-Farr Co. "Before the war our plants were running ten per cent. Since March 1 they have been increased 200 per cent., showing that the cut in price has done good already. If we can maintain an output, backed by consumption, of 75 or 80 per cent. of normal, it is probable the new prices will remain." The output of the Cleveland district plants of the Barkwill-Farr Co. now is 1,000,000 brick and 500 tons of tile daily.

* * *

Barkwill-Farr Co. Opens New Display Rooms

What is believed to be the first definite step toward creating a demand for common brick for use in exterior finish in all forms of construction where face brick is used, has been started by the Barkwill-Farr Co., Cleveland, Ohio, in the establishment of a display room in its new quarters and the organizing of a service department under the direction of a practical brick man.

On February 10, the Barkwill-Farr Co. opened its new offices, with much larger space, on the eleventh floor of the Leader-News Building, moving from the second floor. Practically the entire Superior Avenue front of the building has been taken. For the first time in Cleveland brick circles, a display of common brick and allied lines was also opened to the public and others interested in brick construction. The display room in which this exhibit is contained is 19x17 feet. In it are common brick, shale brick, backup, partition and floor tile, radial chimney block, and other products of the Barkwill-Farr Co.'s plants. Each material is displayed in such a way as to show the many methods of its use, treatment and laying, and especially the part that common brick can play in exterior finishing for housing, semi-public buildings and the like, instead of merely being used



New Display Room for Common Brick and Tile of the Barkwill-Farr Co., Cleveland, Ohio.

for factory purposes along this line, as has been general in the past.

In commenting upon the future plans for common brick and similar lines, E. J. McGettigan, sales manager of the Barkwill-Farr Co. says:

"We are not necessarily planning to influence any one away from face brick, but we propose to show the many

advantages of these materials and the saving they will make for those contemplating home building. We propose to emphasize the value of use of brick and tile instead of lumber and will aim to show that while the initial cost of the former is but slightly above that of frame construction, in the end it will prove cheaper because of lower upkeep. We propose to follow up this program at an opportune time with advertising and publicity in the local newspapers."

In addition to this feature, the Barkwill-Farr Co. has arranged with H. B. Dawson for the establishment of a special service department, the chief aim of which will be to conduct successful missionary work among those contemplating building of any kind. Mr. Dawson is specially gifted for this work, as he is a practical brick man, having spent prac-

tically all his life in the business, and has risen from bricklayer to contractor. More recently he was connected with the National Fire Proofing Co. He will consult with prospective builders, draw plans, compile figures and otherwise aid them in making their selection of materials, and finally be able to give them a pretty accurate estimate of the cost of their work.

One of the first significant examples of use of common brick in exterior finish, is seen in Cleveland in the new Masonic Temple and Auditorium, designed by Hubbell and Benes, creators of the Cleveland Museum of Art.

It is estimated by common brick interests that the use of this material in exterior finish should cut the cost of facing in half.



CLAY PRODUCTS PRICES *hold* FIRM in GOTHAM

WITH THE FORMAL OPENING of the 1919 building season material price changes are effective that give temporary advantage to prospective builders, according to The Dow Service Daily Building Reports.

Quotations effective March 17 show a dollar drop in the price of neat wall plaster to \$23.30 a ton, delivered in New York, a slight change in favor of the builder in small size window glass representing slight shading on the part of jobbers desiring to move old stocks, the complete withdrawal of listed selling prices of sand, gravel, grit, and possibly crushed stone in this market, thereby throwing the market wide open to the best price the buyer can get, depending upon quantity and location of job. Hydrated lime buyers are being urged to get into the market on the present level due to Ohio price fluctuations. Common Hudson brick is face to face with a further price advance, not so much because of scarcity of brick in the wholesale market here, or up the river, but because of new labor conditions that are to be formally presented to the brick manufacturers this week by the barge men, and, finally, the statistics covering the portland cement industry of the country, and particularly of zones 1 and 2 supplying this district show that there is no surplus cement or cement clinker on hand with which to start the present building season.

EQUIPMENT LINES TURN IN BUILDER'S FAVOR

Other items showing a temporary turn in favor of the builder are in equipment lines, there being frequent declines in iron sash weights and cast iron pipe interests are watching the pig iron market for further declines. Some drops have been made in insulated wire, some asbestos cement, a continuation of drop in rubber covered wire and some adjustment is expected in certain steel products used in building equipment.

Taking the market in its three general phases, basic, supplemental and equipment materials, it is significant that practically the only declines are in the last two classifications. The drop in delivered price of neat wall plaster is a dealer cut and was not due to any change in the price made by manufacturers. In the basic materials, like clay products, calcined materials such as lime, cement, etc., the quotations are favorable to builders today in that the manufacturers of these commodities either cannot tell what their costs are going to be this year or their reserves are so low as to indicate beyond any question that the present price lists are where they are for immediate acceptance. It is certain that the building season will close with prices for all basic commodities higher than they are now.

For instance, Portland cement shipments out of zones 1 and 2 in January and February almost equal the quantity

shipped during 1918 when the Government was crowding the mills to produce cement for war requirements. It is in excess of two-thirds of the cement stock movement for the same two months in 1917 before the country entered war. For the country the shipments in January and February were almost equal that for 1918 as an average, with certain middle western and central states exceeding the demand by fifty per cent., notably in Pennsylvania and Ohio. Nebraska and Oklahoma were among the states that showed declines. The stocks on hand are about the same as at this time last year when the mills were producing their full war-time quota which simply means there is no surplus. With state road work and a domestic building year that is looming into unexpected proportions, there is considered to be no chance of price reduction on this commodity. All clay products, whether brick or sanitary porcelains, are being held firmly to present prices.

The movement for price stabilization in this district will be crystallized in Northern New Jersey March 18, when building manufacturers, dealers, lenders and individuals and firms from all the counties in that part of the state will meet at the City Hall, Paterson, with representatives of the Government to take up the building material price situation and try to mutualize the Federal Government's efforts to encourage building work of all kinds with those of the private bankers and individuals who want to build at once, but who fear either price inflation or price reaction. A call to 500 building interests in the New York metropolitan district has been sent out for this conference.



Urges Completion of N. Y. State Highways

The New York State legislature should appropriate \$5,000,000 from the second \$50,000,000 highway bond issue to cover the expense of completing all existing unfinished highway contracts during the coming season and enable the Highway Department to resume the work of construction when the material and labor costs readjust themselves, probably some time next summer, so Edwin Duffey, State Commissioner of Highways, recommends in his annual report just made public.

One outstanding feature of the report is the enormous increase in the cost of road building that has resulted from war conditions. This increase, the commissioner points out, renders it inadvisable at this time to resume construction, but he suggests that money be made available so that the department may be in a position to take advantage of any drop in building material costs. His plan calls for the completion of roads now under construction and a waiting policy

as regards the letting of new construction contracts until both material and labor conditions assume more normal aspects.

On the basis of the present prices the state would be forced to spend \$18,000 a mile for waterbound Macadam roads, where prior to the war the cost was \$12,000 per mile; \$23,000 for bituminous Macadam road formerly built at a cost of \$14,000; \$28,000 for concrete roads formerly constructed at a cost of \$18,000, and \$35,000 for brick roads formerly built for \$25,000.

The mileage of the state and county highway systems is estimated at 11,988 in the report. Highways completed January 1, 1918, totalled 6,872 miles, while highways completed and under contract January 1, 1919, were 8,023, leaving 4,000 to be completed.



Trenton, N. J., is now assured of a new hotel. As a result of the campaign for funds announced in recent issues of *Brick and Clay Record*, a total subscription of \$507,000 has been secured for the project. The structure will be ten stories, about 100x200 feet, constructed of brick, steel and stone. About 250 rooms will be provided. Preliminary plans are now being prepared by Architect Eisenwein Johnson, Buffalo, N. Y., for the building, which will be located on a site recently secured at West State and Willow Streets. Local brick, clay and pottery interests took a prominent part in the campaign for funds for this new building, which is so urgently needed, and practically every concern in the ceramic industry in this territory has made a subscription to the fund. The hotel will be

erected by the Hotel Realty Co. Plans are under way for a number of other important buildings in this section, including one or more banking institutions. Present indications show that the coming season will also bring forth a volume of new homes and apartments, and as brick is a favorite material in this district, it is safe to assume that it will be in firm demand during the next few months.



The Hay-Walker Brick Co., 52 Vanderbilt Avenue, New York, reports an increased number of inquiries for its various high-grade brick. E. M. Thomas, treasurer of this company, sets forth that some few large operations are now being developed, and that the general outlook for a resumption of building is particularly good. This company handles the product of a number of New England, New York and Pennsylvania brick and other burned clay manufacturers, and has a most attractive showroom to display a number of interesting varieties of high-grade smooth and rough face brick. An order has recently been received for 500,000 face brick for a new Jewish Home to be erected at 167th Street and Teller Avenue; for the Brick, Terra Cotta & Tile Co., Corning, N. Y., one of the concerns which is represented by the Hay-Walker Co., in this eastern territory, an order has been received for considerable material for a new public school at 181st Street and Belmont Avenue, to be known as Public School No. 57. In passing, it is interesting to note that this company supplied the face brick for the New Commodore Hotel in New York, such being produced at the plant of the Clearfield Brick Mfg. Co., Clearfield, Pa.



FIGURES on EXPORTED CLAY PRODUCTS HIGH

EXPORTS OF American burned clay products from different parts of the United States during the past year, ending June 30, 1918, are particularly interesting and instructive in showing the extent of the utility of our native clay production and manufacture in various parts of the world. From advance figures compiled by the Department of Commerce, just available, the tabulations show that fire brick to the amount of 108,363, valued at \$4,770,842 were exported in this time, and building brick to the number of 10,024,000, valued at \$183,072 were shipped during this period. The exact figures for the different localities are as follows:

FIRE BRICK		
	Quantity (M)	Value
Arizona	841	\$ 47,754
Buffalo	56,415	1,913,115
Dakota	1,644	44,805
Duluth and Superior.....	408	14,314
El Paso.....	111	3,702
Florida	4,476	227,004
Georgia	978	96,953
Galveston	286	9,439
Maine and New Hampshire.....	5	284
Maryland	959	88,476
Massachusetts	2	85
Michigan	19,241	957,164
Mobile	246	10,269
Montana and Idaho.....	84	1,736
New Orleans	1,950	160,784
New York	7,180	516,121
Ohio	963	24,684
Porto Rico	74	2,425
Rochester	1,306	43,152
San Antonio	2,304	103,891
San Francisco	602	65,597
Southern California	97	2,438
Sabine	89	3,316
St. Lawrence.....	5,935	275,475
Vermont	119	2,098
Virginia	531	53,215
	108,363	\$4,770,842

BUILDING BRICK		
	Quantity (M)	Value
Arizona	731	\$ 7,498
Buffalo	1,194	17,793
Dakota	879	12,773
Duluth and Superior.....	537	7,118
El Paso	39	525
Florida	149	6,380
Maine and New Hampshire.....	12	107
Maryland	172	16,340
Massachusetts	2	87
Michigan	2,640	35,945
Mobile	3	75
Montana and Idaho.....	2	375
New York	1,073	28,583
New Orleans	371	19,392
Ohio	279	3,450
Porto Rico	91	7,777
San Antonio	881	11,131
San Francisco	21	682
St. Lawrence	181	4,325
Southern California.....	77	1,100
Washington	690	8,616
	10,024	\$ 183,072

As regards chinaware, the total exports in this period from the different localities mentioned, aggregated in value, \$345,838, the largest exports being from New York, with a total value of \$200,053.

NEW YORK EXPORTS, DECEMBER, 1918

Exports from the Port of New York for the last month in the past year for different important clay products are noted below, figures for this month having been just compiled:

Fire brick.—The exports of fire brick totaled \$22,850, for 216,000 brick. Of this amount, the largest shipments were made to Cuba (70,000), \$5,264; Chili, (69,000), \$5,847; and Mexico (48,000), \$4,686.

Chinaware.—The exports of chinaware aggregated \$26,-

674, the largest shipments being made to Cuba, \$7,860; San Domingo, \$2,323; Bolivia, \$2,802; Peru, \$2,311; and Mexico, \$1,573.

Earthenware.—The exports of this material for the month totaled \$17,059, with the largest amounts of material going to Cuba, \$4,026; Panama, \$2,045; Argentine Republic, \$1,602; and San Domingo, \$1,828.

Tile.—The aggregate exports of tile reached \$11,329, and

of which the largest quantities were shipped to Cuba, \$6,147; Argentine Republic, \$2,206; and Chili, \$943.

Chemical Glassware.—The exports of this material aggregated \$4,394 for the month noted. The largest shipments were sent to Cuba, \$1,398; Argentine Republic, \$990; and Australia, \$497.

The exports of building brick, Port of New York, for this month only reached an amount of \$280.



BURNED CLAY *for* CONCRETE AGGREGATES

DURING THE PAST YEAR extensive experiments have been conducted in different parts of the country for the production of a burned clay mass that would prove suitable for use in a concrete mixture. The outcome of this work has been highly successful in many instances; both east and west, overburned clay, often referred to as "swell bellies" has been developed for concrete aggregates, primarily for ship construction for the moment, with attending results far exceeding initial expectations.

The employment of clay for this purpose has come to stay, not only for utility in the building of concrete vessels, but for use in the production of high grade concrete for general construction work. It has proven to be an ideal material and capable of exceptional facility for service of this nature. Again, it is possible that further development will indicate other uses and advantages for the overburned clay product, leading to the establishment of plant departments and entire plants for regular production.

Among the important brick interests which have given attention to the manufacture of material for concrete aggregates is the Los Angeles (Cal.) Pressed Brick Co. This concern specializes in a large variety of high grade burned clay products, including pressed, face and enameled brick; refractories; roofing, mantel, faience and quarry tile; fire-proofing clay specialties; sewer pipe; and architectural terra

cotta. To these different products has now been added "Larsite," a name given to a vitrified floating brick specialty, particularly designed for concrete work. The company has large production facilities, operating plants at Los Angeles, Santa Monica, Alberhill and Point Richmond, and plans are now under way for a general increase in capacity.



That Which is Not Obscured by the Piece of Larsite Which He is Holding, is the Smiling Countenance of Gustaf Larson.

Larsite, so named after its inventor, Gustaf Larson, general superintendent for the company, is made from ordinary red burning clay. It is mixed and molded similar to the manner employed for regular brick, and burned by heat

radiation in a kiln designed for glazed and pressed brick. A period of from 26 to 30 hours is required for this burning, during which time the brick expand about three times in volume in the kiln. The resulting mass is tough and durable; it is practically taken out of the kiln by digging, with the use of a pick, being thus made into pieces of various sizes, with but few small fragments, as the material is not easily fractured. The entire operation is primarily a matter of process and for which arrangements have been made to cover by patent.

The material is composed of a mass of small cells which are hermetically sealed by thin walls between the adjoining cells. When it is broken or crushed, the exterior of each piece is covered with half cells, presenting an ideal surface to receive the sand and cement mixture for a concrete aggregate. The material can readily be made into a hard, strong and durable brick by being ground up and properly mixed with a small amount of binding material, resulting in a total weight of from 2½ to 3 pounds for a full sized standard brick.

Larsite is absolutely non-absorbent and does not shrink. A cubic foot of the material crushed and passed thru a ⅜-inch mesh screen weighs only about 18 pounds, while taking a piece the exact size of a brick, 8x2⅜x4 inches, sawed out of a lump, shows a weight of but one pound. It is much lighter than wood, with tensile and crushing strength under tests far greater than concrete when made of granite rock.

The minute cells of this vitrified clay mass are filled with gas which still maintains in the burning. This provides buoyancy, with resulting specific gravity lower than water, and as the cells are independent, as noted, the mass is impervious to the action of the water. With these features of low specific gravity and non-absorption, together with the exceptional crushing and tensile strength, the material forms an ideal aggregate for concrete for ship construction. In color, Larsite is bluish or blue black.

LARGE QUANTITIES USED BY GOVERNMENT

The development of this material has been brought about by the demands of the Government during the months past for a burned clay product suitable for use in connection with the construction of concrete vessels. Experimental work was carried on in 1918, and the material placed on the market as a finished product in November of that year. Great interest in Larsite was expressed by officials of the Emergency Fleet Corporation, and the results under actual work have proved so highly satisfactory that orders have been placed for the delivery of 3,000,000 brick of this material during the next few months. Since the time mentioned (November, 1918) considerable quantities have been used by the Government for the building of ships at Oakland, Cal. It is understood that the production will also be employed for a similar purpose at the Federal shipbuilding yards at San Diego, Cal.

FOR INSULATING SERVICE

With this demand from the Emergency Fleet Corporation

for capacity production, no opportunity has been prevalent up to the present time for exploiting the possibilities of this material for other service, and which it is planned to do after the requirements of the Government have been filled.

Beyond the utility for concrete aggregates, Larsite offers distinctive advantages as an insulating material. The different qualities noted above bear out this statement; it will stand exceptionally rough handling and gives evidence of outlasting many other kinds of insulating products. Moreover, insulating products in general are affected by dampness and water, and when losing their efficiency must necessarily be replaced. As noted, Larsite is absolutely non-absorbent.

It is also expected that the material will prove valuable in connection with concrete mixtures for general building construction, where strength with lightness are important factors. For high buildings, as well as other structures, the reduction of dead loads in the form of regular concrete by the means of Larsite used in the aggregate would effect a considerable saving.

* * *

Contracts for 800 School Houses Held Up

Contracts for 800 public-school houses, totaling some \$80,000,000, have been held up as a result of the war, according to but a partial tabulation of building conditions thruout the United States, which has been made by the statistical section of the Division of Public Works and Construction Development, U. S. Department of Labor. It is estimated that the completed tabulation will show that these school projects, now being held in abeyance, aggregate more than \$100,000,000.

In round numbers the cost of the school program is about \$1 per capita thruout the United States. As school buildings are customarily financed on 20-year serial bonds this means an installment payment of about 5 cents per capita per year by the people of this country if they would have their school program put thru at the present time.

Assuming that a decrease of 20 per cent. in construction costs might develop during the next four or five years (and this is regarded by many as a maximum decrease), the immediate completion of the Nation's school program would involve an excess of only 1 per cent. per capita per year over the per capita cost, even if construction were delayed for several years.

The educators of the country ask, shall the country have its schools now at 5 cents per capita per year, or delay having them for four or five years in order to buy them at 4 cents per capita per year?

To interest the Nation in forwarding this particular work is one of the undertakings of this new division of the Department of Labor. In this purpose it has the support not only of educators, but of sociologists. They believe that the nation-wide lack of public-school accommodations, which is known to all, is one of the earliest problems that must be solved with others that belong to the reconstruction period.

* * *

While industrial construction work bids fair to take a good share of building work during the coming season at Newark, N. J., and vicinity, present indications show that for the next few months apartment house erection is going to hold the center of the stage in this city, as well as the Oranges, adjoining. A contract has been let to the Kelly-Ackerson Co., 200 Main Street, East Orange, for the construction of a twin apartment house on South Munn Avenue to cost about \$600,000. This structure, designed to house 120 families, will be one of the largest

such buildings in the state; it will be five stories in height, about 135x218 ft., with wire-cut brick as the primary construction material. A five-story brick apartment to cost \$130,000 will be erected immediately at Walnut and Orchard Streets in this same section by Levin & Ruderman, with area, 85x92 ft., while a four-story brick apartment to cost \$125,000 will be built by Nalebuff & Romm at 26 South Maple Avenue, to be about 65x125 ft. In all of the various apartment house operations, face and common brick are the dominating materials. In commenting on the building outlook, William P. O'Rourke, superintendent of buildings at Newark, holds to the opinion that there will be an early resumption of activities. This view is taken as a result of the increased number of inquiries now being received at this office; these indicate that plans are under way for the construction of new brick warehouses, industrial buildings, a theater, as well as numerous homes and dwellings.

* * *

Prices of brick and other important building materials continue to hold firm in different parts of New Jersey. While the general tendency is seemingly one of a drop in present levels, there is no indication that the falling off will vary more than a few fractional points. Common brick at Newark continues to sell at \$19.50 per thousand delivered on the job; the wholesale price to the dealer is from \$15 to \$15.50 per thousand for good, hard common. The bulk of supply for this district is from the Hudson River section, and a quantity available for all demands is readily obtainable. Other burned clay products hold at present prices, with the exception of fire brick, and the past month has shown a decided fluctuation in this commodity. With initial drop to \$68 per thousand, the present quotation is \$65 for good grade of material. At Trenton, one of the important brick producing centers of the state the price of about \$14 per thousand for good hard common brick delivered on the job holds. In connection with the prices of building materials it is interesting to note that Gilbert C. Higby president of the New Jersey Chapter of the American Institute of Architects holds to the view that the wage situation will not change to any appreciable extent and that the reduction in the prices of different commodities will not be sufficient to seriously affect any project. Mr. Higby is in close touch with the situation and maintains that the present is the time for the safe and sane man to build.

* * *

Thru the \$50,000,000 loan that the state of Pennsylvania will float soon, for the purpose of rebuilding the roads of the state, Berks County will get its due share, and among the first ones to be constructed will be the county's first brick and concrete road of a length of 10,800 feet on Route No. 160, in Perry and Windsor Townships, near Hamburg, Pa. The list of bids will be asked by Road Commissioner Sadler, of the Highway Department, at Harrisburg, for 50½ miles of permanent road, in addition to 53 miles of road for which bids were asked some time ago. Each one of the strips to be improved will be a part of the main arterial system, which when completed will compose the Sproul primary system. The 50½ miles of road calls for 17 contracts. Fourteen of these roads will be 18 feet wide instead of 16, the former standard of the Pennsylvania Road Department.

* * *

The Burke Brick & Tile Co., of Fort Smith, Ark., has filed an amendment to its constitution changing the name to the Fort Smith Brick Co. H. C. Kennedy is president.

PRODUCTION

It's a Big Word and is Affected by Numerous Factors—The Author of This Article Shows the Importance of Labor Personnel, Equipment and Technical Direction in Clay Plant Production

By G. G. Lawson

Superintendent, Northwestern Terra Cotta Co., Chicago, Ill.

IT MAY SEEM that the country generally has been pretty well "fed up" on this subject of production. We have had many slogans during the past year or year and a half in connection with production; Food Will Win the War—Produce It; Ships Will Win the War—Produce Them; and so on.

Unfortunately for most of those engaged in the business we represent, our interest in this topic of production has been for the most part, in the discovery of the irreducible minimum. Now, however, the great war is over and those engaged in war production as well as those of us engaged—mostly in no production at all, will at some time in the near future be confronted with problems of production vastly different from those faced and solved with varying degrees of success during the war emergency. War production has been concerned largely with quantity and many elements of vast importance in normal peace production are utterly ignored, or sacrificed to the necessity of speed and volume.

Normally the one main object towards which our efforts are directed is successful production, and production to be successful must meet satisfactorily all of several demands. The product must be such as will provide satisfaction to the client or customer, and at the same time be creditable to the producing organization. The transaction involved must be such as will provide a satisfactory return to the invested interests, and also to all who contribute in any way to its successful performance either thru service or labor. (The war has created conditions that will greatly affect all these elements of the problem of production and it would seem wise that during this interim of readjustment or reorganization some consideration should be given them.)

LABOR DIVIDED INTO TWO CLASSES

Labor has been, mostly thru the efforts of the gentlemen engaged in the business of cost accounting, divided into two classes, productive and non-productive. I think the distinction is unfortunate as in many cases it has given rise to the idea that that part of the organization not engaged in the direct handling of the material involved is non-producing, for the most part non-essential and that the more it is reduced in volume and importance, the greater will be the profit to all concerned. The test of essentiality is not whether the labor is done with the hands or with the head, but whether the efforts put forth contribute profitably to those elements of successful production, namely—satisfaction to the client, profit or credit to the producing organization.

Nevertheless, it is true that those who contribute their

bodily labor are in the first line of trenches and the merits of those so called non-productive agencies must be judged by the quality of the service they render to the organization of production. These services are of little value unless they can be translated into tangible form in the material produced.

The salesman, for example, has merit as a producer only so far as he supplies the organization of production with orders that can be satisfactorily and profitably produced. The cost department is productive in so far as its efforts direct attention to proper or improper means of control that render production profitable or unprofitable. Successful production cannot certainly be achieved without proper service rendered by these departments of promotion, sales, finance, etc., but the services necessary to successful production in actual operation are those rendered by the three general divisions of personnel, equipment and technical direction. On the character of the service rendered by the executive organization in realms of these three divisions will depend largely the success or failure of the organization of production. The failure to provide adequately for any one of these, labor, equipment or knowledge, will throw so severe a strain on the others as to jeopardize the success of the organization as a whole.

THE COST OF HIRING LABOR IS STARTLING

Taking up then, first the question of personnel—the hiring and maintenance of a force of men fitted to accomplish successfully the tasks set before them, capable of attaining successful production. The elements entering into this problem of personnel—the maintenance of the force—have been but little understood and the loss involved by a large labor turnover, but little appreciated by the mass of industrial executives.

During the past six years, however, extensive investigations have been made and reliable statistics on the cost involved have been secured. It is pretty well established that the cost of hiring and training an employe varies from \$12 to \$150 according to the nature of the work to be performed. In highly specialized industries requiring a long term of training, the cost may be much in excess of this amount. Magnus Alexander, of the General Electric Co., in a survey made of twelve factories in various industries found that the average cost of bringing in a new man was between \$35 and \$40. Mr. Grieves, of the Jeffreys Manufacturing Co., in a survey of the records of twenty factories, places the average cost of a new man at \$40, while John M. Williams, of Philadelphia, claims that these figures are too low. Taking, however, this fig-

ure of \$40 as a fair average, we arrive at the conclusion that to increase a present force of about 580 to a possible 1,000 will possibly entail an expense of from \$20,000 to \$30,000.

All these figures, however, are based on the supposition that all employes hired could be retained, a condition impossible to fulfill. The great possibility of expense lies not in the case of the employe who is hired, trained and installed as a permanent unit of the organization, but in that of the employe who is hired, installed, more or less trained and then for some reason or other is divorced from the organization before his time of service has been sufficiently extended to compensate for the expense incurred. The cost of this feature in industrial experience is startling.

FACTORS ENTERING INTO COST OF HIRING

In the survey of twelve factories mentioned above, it was found that in one year the total number of employes was increased from 37,000 to 44,000, but to secure this increase a total of 42,000 had been hired. These figures are quoted to draw attention to the importance of the problem from a financial standpoint, and to procure perhaps due consideration for this most important problem which confronts us. The elements entering into the cost are classified as: (1) Clerical work in connection with hiring; (2) instruction of new employes; (3) increased wear and tear of equipment; (4) reduced rate of production during early period of employment; (5) spoiled work.

Present indications point to the probability of an excess in the labor supply during the next four, six or perhaps eight months, and it would seem wise to adopt a labor policy that would use this period to develop an organization that would be, not only the most efficient but the most permanent obtainable, to reduce as far as possible not only the initial cost of installation, but the much more excessive item of labor turnover. These questions of policy that must be determined, deal with such subjects as wages, promotions, working conditions, hiring, permanency of employment, firing, etc.

DETERMINATION OF WAGES

To obtain the best and most profitable result from the expenditure of money in the form of wages, it is necessary to study the assessed value of each unit or individual of the organization and to be assured not only that he is delivering fully for value received, but he is receiving fully for service rendered. If the latter condition is not met, the result will be the elimination of a dividend earning asset or a drop in efficiency. In filling a vacancy, the first problem of the department of personnel is that of job analysis to determine what qualifications are necessary in the individual to properly fill the job, and also what conditions should surround the job to make it suitable and attractive to the available man.

The first and usually the most important point at issue is the wage to be paid. For any particular job this will vary within well defined limits (tho such limits will be adjustable according to current conditions). It is unwise to hire a 50 cent man for a 40 cent job unless there is a reasonable prospect for advancement. It is also unwise to continue to pay a 50 cent man 40 cents for a 50 cent job, as the result will be either the voluntary elimination of the individual, or a reduction of his effectiveness to a 35 cent basis. The cost of the production unit may be the larger the lower the rate of pay to the individual worker.

The reason that the Ford Motor Co. made a minimum rate of \$5 a day in their plant, was not philanthropic, but was due to the discovery that in the year of 1913, 54,000 men were hired to fill 13,000 jobs, and that one cause of that large and expensive labor turnover was a rate of wages too low to insure permanency in the personnel; also it was found that the 13,000 jobs were not filled by the 13,000 most efficient workers of the 54,000 hired. (Jan. 1, 1919, minimum rate was raised to \$6 a day.)

CLAY INDUSTRY WAGE REDUCTIONS IMPROBABLE

There is much talk of a liquidation of labor—a general reduction of wages, but the grounds for this assumption do not seem to be well founded. There will undoubtedly be a reduction in the wages of special trades that have been inflated due to extraordinary war conditions, but there is little prospect of any reduction that would greatly affect our industry.

If a general wage decline should come at all, the change would come slowly and must of necessity be concurrent with a lowering of commodity prices, which affect the cost of living. Economies must come from the more effective use made of, rather than from the lessened cost of the labor unit.

To insure the most effective use of the labor unit, there must exist not only a present fairly satisfactory condition, but especially in the case of the more intelligent, a reasonable expectation of future betterment either in the way of wages or conditions. The feeling that it is easier to gain preferment by entrance than by promotion, easier for the man in the street than for the man on the job is fatal to any organization and unchecked, will stifle all loyalty and ambition and result in disintegration of any worth-while personnel.

The fact that a man is worth as much to the organization inside as out should be fully recognized, and yet it happens that individuals have secured a coveted "raise" by the process of quitting and rehiring or by a threat of quitting. In such cases the value is recognized but not admitted except upon compulsion. The psychological value of an appreciation granted without compulsion is entirely lost.

WORKING CONDITIONS SHOULD RECEIVE ATTENTION

The policy to be adopted with regard to working conditions should be one that will regard not only the efficiency of the man as a working unit, but also his health and comfort as a human being. Such matters as heating, lighting, ventilation, sanitation, etc., should be considered in this connection.

The high cost of the individual labor unit and the still higher cost of labor turnover, has rendered obsolete the practice of indiscriminate hiring at the gate. The art of hiring begins with a careful analysis of the requirements of the job to be filled and requires a more or less intimate knowledge of the available sources of supply and the current labor market conditions.

The elimination of the burden of the unfit, unprofitable or disturbing units from the organization is no more important than the retention of the efficient, and profitable. It should be recognized that the elimination of the trained profit earning employe, except for good and sufficient reasons, means an unnecessary dissipation of an important company asset. The causes of all terminations of service should be duly investigated, recorded and if possible removed.

With all these facts in view it may seem well at this time to give some consideration as to whether our execu-

tive organizations are equipped to render to the organizations of production, service necessary to the maintenance of an efficient personnel. This service in the modern industrial plant is rendered by a properly constituted department of employment, or rather a department of personnel, as the service to be rendered is by no means limited to the employment or hiring of a sufficient number of men.

DUTIES OF AN EMPLOYMENT DEPARTMENT

The duties of a department of employment or personnel may be summed up as follows:

- (1) Job analysis—a study of all positions or jobs to be filled with reference to the necessary requirements physical and mental;
- (2) Survey and continued knowledge of labor conditions and development of proper sources of labor supply;
- (3) Selection—interviewing applicants, assigning same to available jobs or to file for future consideration;
- (4) Introduction and instruction, hours of work, rate of pay, factory rules, pay periods, methods, introduction to department;
- (5) Follow Up—interviewing and recording man's experience and record during first week of probation, consultation with foreman as to worker's suitability for job and incidently suitability of job to available man;
- (6) Acceptance of worker by operating department and record of same;
- (7) Continued supervision of workers relationships with his job—the real work of the department—involving all questions which make a man satisfied or dissatisfied, efficient or inefficient, an asset or a liability—questions of health, sanitation, comfort, safety, hours, wages, discipline, welfare, vacations, etc.;
- (8) Termination of service; the elimination of the unfit or unprofitable and the retention of the necessary.

SMALLER ORGANIZATION SHOULD USE SIMILAR PLAN

Many organizations, of course, are not of sufficient size to warrant the introduction of a department devoted exclusively to this subject of personnel, but the important thing is that certain definite policies in regard to these matters of employment and maintenance be developed and that some means may be found for putting them into operation. The cost of the labor unit is and will continue to be so high that no successful production can be attained unless proper attention be given to its selection, management and maintenance.

Industrial history shows that labor is seldom liquidated, that once the wage level is raised it may recede slightly, but only to rebound to still higher levels. History also proves, however, that the increase in the cost of the labor unit has usually been largely overcome either by its more efficient use or by the development of more efficient equipment. The development of this field of equipment presents many fascinating problems. Compared with many modern industries ours seems to be backward in the development of economical equipment, and the wasteful operations that we still indulge in offer many opportunities for overcoming the unavoidable rising costs that appear in other directions. Such economies must and will be accomplished but perhaps only thru long continued experiment and careful investigation. In the meantime, proper attention to the maintenance of all available equipment will prove most helpful in the solution of our problem of successful production.

EQUIPMENT AFFECTS LABOR RETURNS

Equipment should not only be the most suitable for the operation to be performed, but must be maintained at all times in the best possible condition, especially such equipment as affects the productivity of labor. The loss of time due to the operation of a poorly constructed or badly maintained machine may easily amount to one hour of the operator's time a day, at 40 cents an hour this would mean \$120 a year or 6 per cent. on an investment of \$2,000. The expenditure of a comparatively small proportion of this sum would prevent a loss of this nature.

The equipment policy should be that at no time shall the efficiency of the worker be impaired because of the lack of proper equipment, or because of failure to maintain such equipment in proper condition.

TECHNICAL DIRECTION SHOULD BE RESPECTED

It is with some feeling of trepidation that I approach this subject of technical direction, but it is of such essentiality to this problem of successful production, that at least some due notice should be taken of its importance. One of the most encouraging developments in this connection is the better understanding and ever increasing cooperation between the technical and the practical man.

The mutual lack of confidence often in evidence in the past is fast giving place to a feeling of mutual respect, and a recognition of the fact that the only rivalry at all admissible is one which seeks to outdo the service rendered.

I have said technical direction, but the term might be rendered technical service and so accepted, because the real progress of the industry depends largely on the service rendered by this division, or body of men who have devoted themselves to the study of the problems of ceramic engineering.

However necessary it may be to produce in such a way as to secure an adequate financial return to both capital and labor, the one great lasting satisfaction of successful production is the evolution of some worthy object of beauty or usefulness and for any success that our industry has attained in that respect, credit must be given in large measure to the service rendered to the organization of production by the department of technical direction. So in closing, I would urge a still greater degree of cooperation between the controlling factors of these three elements, labor, equipment and technical direction. Each must not only be ready to render but to receive service, for only thru the closest cooperation and mutual understanding can we attain our ideal of successful production.



Increased activity is shown in building circles at Pittsburgh. Plans have recently been filed for the construction of a number of brick dwellings, as well as industrial plants. As the spring season enters, it is expected that operations for many new homes and apartments will mature, while factories, stores and other permanent structures utilizing brick for erection will be built. The Jones & Laughlin Steel Co., Pittsburgh, has filed plans for the construction of additions to its boiler and electric plants at the Hazlewood works, to cost about \$114,000. The different buildings will be of brick and steel, and form a new group on Longworth Street. The boiler plant is estimated to cost \$75,000 and the electric station, about \$23,000. Building permits filed during the month of February aggregate \$379,951 in valuation, as compared with estimated costs of \$281,571 in January, 1919, and \$414,688 in the corresponding month of last year.

RAW MATERIAL *and* ASH HANDLING EQUIPMENT

While This, the Ninth Article in the Series, Refers More Particularly to Power Plant Requirements, the Principles Are Also Applicable to General Clay Plant Conditions

By Robert June, M. E.

WHAT DO YOU CONSIDER the most important advantage of your mechanical coal handling equipment?" I asked the superintendent of a large manufacturing plant, the other day.

His answer, given without a moment's hesitation, was, "Elimination of the large and uncertain labor element. We have twenty 500 h.p. boilers, and at two seasons of the year we require every pound of steam we can get from those boilers, day and night, for weeks at a time. Before we put in our own automatic coal handling system, we were at the mercy of our coal handlers and passers.

"Time and again the operations of our entire plant were embarrassed and the work in some departments even brought to a dead stop, by the lack of a full boiler-room crew. We always paid good wages, but the physical conditions under which the men had to work were not good, and on a number of occasions I have been called up at my home late at night, and had to dress and start out in my car on a search for laborers. This was no joke at any time, but when it happened on a cold, rainy night, or with a blizzard for accompaniment, you can imagine the difficulties in getting men to leave their warm beds for any money or other considerations I might offer. On more than one occasion when I arrived at the plant with my hastily gathered crew, they took one good look at our coal piles, drowned in rivers of rain and sleet, or else frozen solid with a forty mile gale frisking about them, and the thermometer down around zero, and refused point-blank to touch a tool.

"Automatic coal handling has changed all that. Because of its assurance of continuity of operation, the mechanical system we now have is worth several times what it cost us. We would employ it if it cost us twice as much per ton delivered to the boilers as hand labor."

PRINCIPLE OF SYSTEM IS RIGHT

That is one point of view. Another man, manager of a good sized plant, said: "We installed mechanical coal handling because we were able to lay out a system which gave us three times as much storage capacity as we formerly had, and we felt it essential to insure an adequate supply of coal at all times."

A third point of view, typical of many, was expressed by a large operator. "We wanted to reduce handling costs as much as possible, and therefore substituted mechanical means for manual handling. Need I tell you that the savings effected have been very large, particularly during the past two years?"

As a rule, one good reason is all a man wants as explana-

tion for an action, hence the failure of the gentlemen quoted to mention the advantages which appealed to the others. Upon further questioning, however, each mentioned the additional points as supplementary benefits which they enjoyed.

There does not seem to be any doubt that nineteen plant managers out of twenty, who have installed mechanical handling are thoroly satisfied that they have made a move in the right direction. Some of them, it is true, would make radical changes in their equipment and lay out if they had the work to do over. The point is that they would do it over. Dissatisfaction, where it exists, is with the application of the system, not the principle.

As Reginald Trautschold sums up the situation: "The coal scarcity has made an adequate reserve of the utmost importance to every manufacturer and its high cost necessitates that the fuel be handled at the plant as economically as possible. This condition has tended to make more general the mechanical handling of coal, for no plant, large or small, can now afford to pay the price of manual handling. The attention thus focused on the question of coal handling has resulted in radical changes in the methods employed to store coal and feed it to the furnaces. So effective have been these changes that it would be little, if any, exaggeration to claim that today a boiler plant for a large manufacturing power plant could be erected and furnished with adequate coal storage facilities, and equipped with a complete system of conveying mechanisms for handling coal from the point of receipt at the yards to the furnace grates, for less money than the most efficient layout of ante-bellum days. This, in spite of the high cost of equipment, material and labor."

SEEK COUNSEL OF EXPERT ON CONVEYORS

Having made out such a strong case in favor of the general handling of coal and ashes by mechanical means, a word of caution is here necessary; when you come to consider the proposition as applied to your own plant, get the advice of a consulting engineer or engineering firm, specializing in power plant design.

I do not mean to belittle the advice and suggestions of your own works' construction engineer, or of the engineering department of the various conveyor manufacturers, or of the engineers and architects who handle your general building construction. These men are all apt to have mighty good ideas, and they should by all means be consulted. But, as they are all general practitioners, whereas you need a specialist, the law of averages is decidedly against your getting as good results from their plans, as from those of a man who makes power plant design his chief business.

VARIOUS METHODS EMPLOYED

The delivery of coal to the furnaces and the removal of ash are usually large items of expense. The best method of handling coal and ash in any given plant, is that which will do the work at the lowest final cost. I use the term "final cost" because insurance of continuity of operations and adequate coal storage are factors which do not appear in a cost-per-ton comparison of methods, but which may have considerable bearing on what may be termed the "earning power" of the power plant. (That is, it may be cheaper in the end to install a particular type of handling system, which will cost more per ton to operate, but will insure avoidance of monetary losses caused by shut-downs, due to lack of coal or to labor difficulties.)

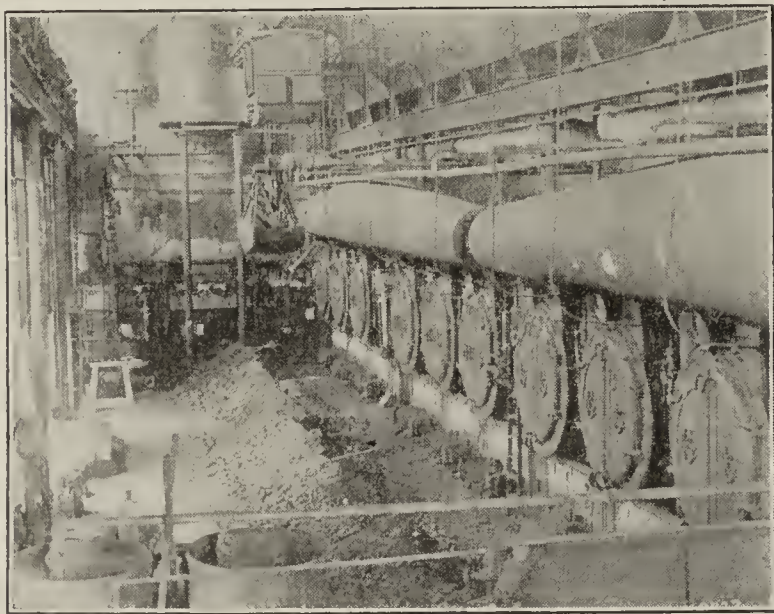
That the problem of proper selection of methods is not easy, is indicated by the almost numberless combinations of means and devices to be found in American plants. The principal factors which influence the choice of systems are size and location of plant and cost of fuel and labor.

The various systems in use may be tabulated as follows:

1. Hand shoveling, without or with wheelbarrow or car.
2. Conveyors—
 - (a) Screw or spiral.
 - (b) Flight or scraper.
 - (c) Apron and buckets.
 - (d) Overlapping dump buckets.
 - (e) Continuous belt.
3. Hoists—
 - (a) Hoist and hand car.
 - (b) Hoist and automatic cable car.
 - (c) Hoist and trolley; telpherage.
4. Cranes—
 - (a) Railroad with clam-shell bucket.
 - (b) Transfer with clam-shell bucket.
5. Vacuum system.
6. Combinations of above. (So-called "silo" system, etc.).

HAND SHOVELING

What are the practical limits of economical hand shoveling? No general answer can be given to this question. Its



Grab Bucket Hoist Shown Inside Power House and Place Where Coal is Discharged for Firing Boilers. American Thread Co. Installation.

solution depends upon the individual circumstances. It is not necessarily a factor of the number of boilers to be served—for instance, the Burroughs Adding Machine Co., Detroit, Mich., finds it economical to employ mechanical coal handling for three boilers, whereas, the Mulkey Salt Co., of the same city, serves eight boilers in a thoroughly efficient manner by hand work. The consideration governing the

choice of means in each of these cases was point and manner of delivery, and this is the principal factor to consider.

If coal can be dumped from cars or dealers' delivery wagons into bins or on platforms directly in front of the boilers, it is certain that no cheaper means can be devised for hand-fired furnaces. In such instances, one man may



Two Shepard Transfer Cranes Equipped with Grab Bucket Hoist Over Coal Storage Pile. Coal Is Received at End of Runway Shown in Background in Barges and Transferred to Storage. Installation Bridgeport Brass Co.

handle the coal and ashes and attend to the water level of 200 h. p. With hand-shaking and dumping grates, one man may take care of 300 h. p.

In cases where coal cannot be stored in front of the boilers, but must be handled by wheelbarrow, cart or hand lorry, the practical economic limit of haul is usually 100 feet, and the economic quantity limit 20 tons per day. While this is generally true, it is not a hard and fast rule. Thus Professor Gebhart states:

GIVES COAL HANDLING COSTS

"Hand-fired furnaces and manual handling of coal and ashes are usually associated with small plants of 500 h. p. and under, but a number of large stations are operated in this way with apparent economy. A notable example is the steam power plant of the Wood Worsted Mill, Lawrence, Mass., in which 40 return tubular boilers are fired by hand. A tipcart with a capacity of one ton brings the coal a distance of 100 to 200 feet to the firing floor, and firemen shovel it on to the grate. Four men are stationed at the coal pile. One man drives two carts (one of which is being filled while the other is going with its load), sixteen firemen attend to the furnaces, and two men dispose of the ashes."

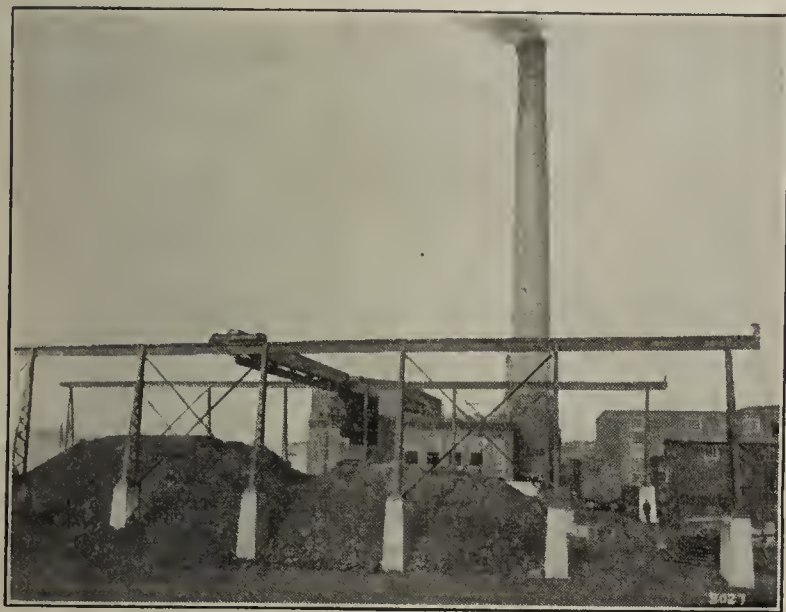
A good man is capable of shoveling 40 to 50 tons of coal in eight hours when unloading a car, provided it is only necessary to shovel the coal overboard. An average figure for handling coal by barrow and shovel is not far from 2.5 to 3 cents per ton per yard, up to five yards. Above five yards, about 0.2 cents per ton should be added for each additional yard.

Obviously, the first step in any consideration of the installation of mechanical coal handling in a manually served plant is an accurate knowledge of the methods, results, and costs of the hand work which may be displaced. Study your conditions and costs thoroly. Perhaps you can make comparatively inexpensive changes in your plant, which will so improve matters that a mechanical installation will seem inadvisable. If no improvements in methods in use, which can be suggested, appear to meet the situation adequately,

the time for an intensive study of mechanical systems is at hand.

THREE TYPES OF CONVEYORS

Conveyors, like airplanes, are classified as "tractors" or "pushers" depending upon whether they pull or push the



View of Installation at Plant of American Thread Co., Shepard Transfer Crane Equipped with Grab Bucket Hoist Which Is About to Enter Power House. This Plan Provided for Future Extension, as Will Be Noted from the Photo.

load. A third class are genuine "carriers" since the moving parts bear the weight of the load. Of these general classes, the "carriers" are usually more economical of operation and maintenance. Before deciding, however, let us examine the characteristics of the various types.

Screw Conveyors: These are of the "pusher" type, the apparatus consisting of a hollow shaft attached to which is a continuous spiral of sheet metal. The shaft is revolved by means of a motor in a trough of slightly larger diameter than the spiral, with the result that as the operation proceeds, material placed in the trough is worked forward.

Screw conveyors may be used up to 100 feet, and in sections of limited length up to an angle of 15 degrees. Speeds, capacities, and horsepower requirements for horizontal runs are approximately as follows:

Diameter screw in Inches	Highest R. P. M.	Capacity tons fine coal per hour	H. P. re- quired for each 10 ft. of length (coal)	Capacity cu. ft. ashes per hour	H. P. re- quired for each 10 ft. of length (ashes)
6	115	6	.5	125	.5
7	110	8	.6	175	.5
8	105	14	1.0	350	.5
9	100	17	1.2	425	.6
10	95	22	1.6	375	.8
12	90	35	2.5	950	1.3
14	85	48	3.5	1,200	1.8
16	80	80	5.6	2,000	2.8
18	75	110	7.7	2,700	3.8

Advantages of this type are low first cost, adaptability and small space required for installation, but these may be offset by high cost of maintenance, due to rapid and excessive wear and tear, by losses caused by breakdowns at important periods and by the high cost of power to operate.

NOT MUCH DIFFERENCE IN FLIGHT CONVEYORS

Flight or Scrap Conveyors: These are of three types, plain, suspended flight, and roller flight. The trough is of any section, but is usually built with greater width than height. Flights, which conform to the shape of the trough are attached to single or double strands of chains. Material is usually discharged thru gates in the bottom of the trough.

The design of the plain scraper provides for the suspension of the flights from the chains, which drags them along

the trough, pushing the load ahead. Cross-bars, having wearing shoes at each end, are provided with the suspended flight conveyors. The arrangement is such that the flights do not touch the trough at any time. Differing slightly from the suspended type, the roller flight substitutes rollers for the wearing shoes.

As between the three types of flight conveyors, service and maintenance considered, there is not a great deal to choose. The general layout of the plant will usually suggest the type to be employed. In this connection, we will illustrate one or two typical installations of flight and scraper conveyors in the continuation of this article next month.

The power required to operate flight conveyors may be closely approximated by the following empirical equation.*

$$Hp. = \frac{AWLS}{1,000} \text{ plus } \frac{BLT}{1,000} \text{ plus } x$$

in which

Hp. = the horsepower required at the conveyor drive shaft.

A. B. = constants as in table to be given in succeeding issue.

W. = weight of conveyor per foot of run, lb.

L. = distance (in ft.) between centers of head and tail sprockets.

S. = speed of conveyor, ft. per min.

T. = capacity of conveyor, tons (2,000 lb.) per hr.

x. = 1 for conveyors up to 100 ft. centers and 2 for longer conveyors.

If the conveyor is composed of portions on different inclines compute the power for each section separately and add 10 per cent. for each change in direction.

As a general proposition flight conveyors are low and offer an economical and efficient means of handling coal and ashes in small plants.

Next month we will discuss other types of conveying apparatus.

* * *

The Motor Truck Has Proved Its Worth

The people of the United States are emerging from a period of intensive effort. We can all be justly proud of the fact that the United States has done its part in the great struggle which has just been terminated successfully. We are now in a position to turn this effort into individual fields, and there is every indication of a wonderful prosperity ahead for this nation.

There is hardly a child going to school anywhere in the United States but what is aware of the fact that motor trucks played a very important part in helping to win the terrible conflict just ended. Everyone knows that motor trucks saved Paris from the enemy, and had it not been for motor trucks it would have been impossible to rush food, ammunition and men to the required fronts. These facts no one can dispute.

Likewise, everyone will readily agree that motor trucks are of the utmost necessity in the reconstruction work in countries that have been thru the four years' war period.

In this country, there will be a wonderful development in the building of roads in practically every state in the Union, which will require a great many thousand motor trucks. Delayed building improvements will also demand a large number of motor trucks. Everything points to a tremendous business activity and prosperity. Motor trucks will be required in the country districts and on the farm and in the large commercial centers as well.

*C. J. Baldwin, The Robins Conveying Belt Co., quoted by Prof. Gebhart.

People well know the value of using motor trucks. In order to take care of transportation problems motor trucks will be just as much of a necessity in our own country during the years to come, as they were necessary for the successful termination of the war.

Rural express will demand motor trucks in order to solve the quick transportation problem. Business men who have been putting off the use of motor trucks, believing them to be an experiment, will no longer have any argument. They are convinced of the practical use of motor truck transportation.

The only point will be: "Which is the best motor truck to buy?"

* * *

Manufacturers' Council of New Jersey Elects Officers

The Manufacturers' Council of New Jersey, which numbers among its membership many of those prominent in the ceramic industry of the state, recently held an election of officers at Newark, resulting in the re-election of Warren C. King, president of the King Chemical Co., Bound Brook, as president; Col. Austen Colgate, vice-president of Colgate & Co., Jersey City, first vice-president; Peter Smith, Barber Flax Spinning Co., Paterson, third vice-president; and George E. Hoffman, secretary of the Monument Pottery Co., Trenton, secretary. Kirk Brown, president of the Condensite Co. of America, Bloomfield, has been elected second vice-president, succeeding Dr. Henry C. Lobis, president, Seabury & Johnson, East Orange; J. R. Monroe, president of the Monroe Calculating Machine Co., Orange, was elected treasurer, to succeed Arthur E. Barlow, of the Barlow Foundry, Inc., Newark; and T. S. K. Hawxhurst, Gulf Refining Co., Bayonne, was elected assistant treasurer. The Council is planning to hold its next joint meeting at Newark in April, and date of which will be announced later.

The Insurance Committee of the Council is now working on the development of a proposed new law to be presented to the legislature providing for state insurance of employes, eliminating, without reducing the compensation to workers, the present insurance plan which calls for an expenditure of many thousands of dollars annually to private companies. The plan is along the lines desired by the New Jersey Clay Miners' & Manufacturers' Association of Middlesex County, as referred to in a recent issue of *Brick and Clay Record*, and if made into a law, as now so earnestly hoped, will bring considerable relief and benefit to the clay working and other industries of the state.

* * *

Los Angeles Has New Research Laboratory

It is understood that a local chapter of the American Ceramic Society is to be formed soon in Southern California, in view of the growth of the clay industry in that part of the state.

The Alberhill Coal & Clay Co., Los Angeles, Cal., has established a research laboratory at the corner of Griffin avenue and Alhambra road, open to the use of everyone interested in clay products. It is expected that many valuable discoveries will result from the laboratory, as undoubtedly, there will come many men of authority in the ceramics field to experiment on new products.

James H. Hill, president of the Alberhill company, has stated that while his company has provided the laboratory, they have no intention of calling it their own. He said: "It belongs to everyone who cares to use it—to one company or school or individual as much as another. There is only

one aim in view—to bring Southern California to the front in the production of improved clay products. There is an endless supply of the finest of clay in Los Angeles and vicinity. It is not all in one place, nor does it belong to one company. Many companies own their own clay supply, but they have not the proper facilities for experimental purposes. They will now be able to take their clay to the research laboratory and work to their heart's content without danger of their processes coming into the hands of others. Climatic conditions for working clay are ideal here, there is an abundance of the finest raw material, labor conditions are favorable and shipping facilities are good. We of Southern California have been talking much of trade expansion, both domestic and foreign. Here is an opportunity. Already the clay products of this section will stand test with any made in the United States. But we will not be content with this. We want to provide better products, many new creations. That is what the research laboratory has been established for."

The plant is equipped with kiln retorts, and all equipment necessary for experimenting is being installed. A technical library will be included with government reports and other publications relative to the entire industry.

* * *

The Syracuse China Bulletin

"The Syracuse China Bulletin," factory paper of the Onondaga Pottery Co., Syracuse, N. Y., made its bow to the public about the middle of March.

The new publication is of four pages and contains one editorial and three news columns with data about the factory and the employes. Its object, so the paper says, "is to record items of interest to the 750 employes of the company, to develop a closer social relationship between them, and to stimulate interest in the advantages of being associated with an organization which presents opportunities for satisfactory employment second to none."

Page one of the Bulletin contains a variety of items of general interest to the workers of the plant. One of them calls attention to the fact that the average purchase of Liberty Bonds at the factory is \$100 for all employes and another points out that \$4,700 worth of War Savings Stamps have been sold there and a third tells of \$9,000 having been contributed to the Syracuse War Chest. Another tells of a successful "first night" by the Onondaga Pottery Dramatic Club.

A single column box down the middle column of the front page contains the honor roll of five employes who gave up their lives for their country in the fight to keep the world safe for democracy. Other items deal with the classes in English, an athletic meet, bowling, a greeting to employes returning to their work from army service, a few jokes and a variety of smaller items interesting to pottery makers.

* * *

Canadian 1918 Clay Production

Figures are now available for the production of clay products in Canada in 1918. These with those for 1917 are given in the following table:

Product	Quantity	Value	Quantity	Value
Clay Products.....	(4,599,835)			\$4,779,038
Brick, common.....No.	171,921,837	\$1,915,490	210,630,576	1,999,465
Brick, pressed.....No.	38,317,751	626,311	46,408,946	653,153
Brick, moulded and ornamental.....		43,442		54,234
Fireproofing.....Tons	27,912	25,000		394,733
Hollow bldg. blks..No.		43,087		
Kaolin.....Tons	\$63	19,299	533	9,594
Pottery.....		(a)131,242		122,878
Refractories, fire clay.....		(b)397,458		326,511
Sewerpipe.....		699,784		783,762
Tile, drain.....	19,616,261	499,135		434,708
Sand Lime Brick....No.	16,824,858	213,680	18,001,990	201,355

(a) Excluding \$527,229 from imported.
(b) Excluding \$84,018 from imported.

FREIGHT RATE PROBLEMS

*Paper Read Before the Seventh Annual Meeting
of the American Face Brick Association, Edgewater
Beach Hotel, Chicago, Ill., February 10 to 12*

By M. F. Gallagher

of Gallagher, Kohlsaat & Rinaker, Chicago

EARLY IN MAY Mr. McAdoo made the startling announcement of his increases in rates effective June 25. Without questioning the need at that time of greater railroad revenue, it is fair to state that the method pursued in advancing freight rates was without a precedent. There was no hearing, very little, if any, investigation of the conditions in the various industries affected, no attempt to study what the traffic would bear, but a horizontal increase in all rates was ordered. It was more in the nature of the exercise of the taxing power of the Government than the rate-making power. General Order No. 28 advanced all rates on brick, except enameled and glazed, 40 cents a ton. The first principle of taxation is equality and uniformity.

At a meeting at Cleveland soon after the publication of the order, Mr. Francis B. James, of Washington, and myself were employed and instructed to enter a protest against the advances in the rates on brick under General Order No. 28, on the ground that brick traffic had not been fairly dealt with, and that an unequal and excessive burden of freight charges had been placed upon the brick traffic.

PROTEST ENTERED IN BEHALF OF BRICK

Brick rates were advanced relatively in a much greater measure than class rates and commodity rates in general. Regional traffic committees were appointed by Mr. McAdoo to hear complaints and readjust the advances in General Order No. 28 where they worked an undue hardship. The first regional traffic committee to assemble was that headed by B. Campbell of the New York, New Haven & Hartford Railroad, sitting in New York. On the morning this committee organized, Mr. James and myself were present and entered the first protest before this committee. The members of the committee listened sympathetically to what we had to say but stated it was powerless to make any change in General Order No. 28. We inquired who had such power and were answered that Mr. Chambers, Chief of the Traffic Division of the Railroad Administration, was the only man who could act. On the following morning we had a conference with Mr. Chambers at Washington, who appeared to become very deeply interested in the matter of brick rates, of which at that time he disclaimed any personal knowledge. He stated to us that if it was a case of excessive burden and special hardship he would personally see that the advance was modified, but he could not promise any action before June 25, stating it was a physical impossibility for him to consider the numerous protests that were reaching him and grant any relief before June 25. He said he would act at the earliest possible date, and requested that we prepare and present to him a complete detailed statement

showing what we considered the inequality and excessive burden placed upon the brick industry by General Order No. 28.

Statistics were then gathered from the face brick, common brick and paving brick industry as accurately and comprehensively as possible. The figures then compiled showed that the average of the brick-moving-rates in the country was approximately 65½ cents per ton, and that an increase of 40 cents per ton would therefore be approximately 61 per cent. increase as contrasted with the general increases in class rates and commodity rates of 25 per cent.

The figures were all compiled and a protest setting forth the position and arguments of the brick industry printed and submitted to Mr. Chambers. At his request, on June 20 a hearing was had before Messrs. Hastings and Walter, designated to represent the director general in the investigation of the complaint on brick rates.

CLAY INDUSTRY UNITED IN REQUEST

The entire industry, including the representatives of paving, face and common brick and hollow building tile industries, all united in the request that General Order No. 28 be so modified as to prescribe an advance of 25 per cent. in brick rates, with a maximum increase of 2 cents per 100 pounds; and that existing differentials be preserved as far as practicable. No announcement was made at the close of this hearing, but prompt disposition of the protest was definitely promised.

Before the effective date of the tariff, namely, June 25, Mr. Luther Walter, one of the two officials of the Railroad Administration designated to hear our protest, recommended a change to the basis of an advance of 20 cents a ton. But no change was made. On June 29, 1918, Mr. Walter wrote me that I need not take up the matter with the Interstate Commerce Commission.

On July 12 I received the following telegram from Mr. James: "Prouty and Walter are ready to recommend that flat increase of one cent per hundred pounds be imposed upon brick. Hastings and James are not yet ready, but are gathering some additional statistics as to some of the brick movements. Hastings does not believe that one cent is sufficient on long haul brick, but is holding his views in abeyance until he obtains statistics."

On July 13, 1918, Edward Chambers, Chief of the Railroad Administration, wrote Mr. Allison, of the Illinois Brick Company, as follows: "The question of a general revision of the rates on brick which was discussed at the June 18 conference between representatives of the brick interests and Messrs. Walter and Hastings, was not overlooked. We are now considering the question submitted at the June 18 conference, and it is expected that this general

proposition will be disposed of in the very near future."

Apparently the matter was delayed by Mr. Hastings, who, it was stated, was gathering statistics on the brick traffic.

August 3 Mr. Walter wired me that he was exerting every effort to have decision reached without further delay.

August 2 Mr. James telegraphed me that Hastings promised him that he would reach his conclusion before the week was over.

GRAVE INJUSTICE TO BRICK INDUSTRY

Hearing nothing further, on August 20 I went to Washington and had conferences with Mr. Chambers, Mr. Hastings, Mr. Walter and Mr. Atkins, the latter being assistant to Judge Prouty. Mr. Walter and Mr. Atkins informed me that they and Judge Prouty were all agreed that the advance ordered by the director general should be reduced to a straight one cent per 100 pounds on all brick hauled. Mr. Walter further informed me that Mr. Chambers had expressed himself to Judge Prouty as in favor of making this change. I asked Mr. Chambers if any statistics had been gathered by him or his associates that in any way indicated that the advance of two cents per 100 pounds did not amount to a percentage advance of over 60 per cent. as shown by our figures. He answered that he had no such data and there was nothing before him that in any way discredited our showing. We argued to him that even tho the expense of operating was on the increase and higher rates had been justified, still it was unfair to give the brick industry an advance in its rates of over 60 per cent. while the general advance was about 25 per cent. We pointed out to him that a grave injustice had been done to the brick industry and in fairness that injustice should be recognized, and corrected by immediate action. He seemed to concede that the advance in the rates on brick was out of all proportion, but he would not definitely promise a favorable decision emphasizing the need of the carriers for revenue. He said that as soon as Judge Prouty returned from his vacation he would have a final conference with him and would then reach his decision and make an announcement, and that if we were not satisfied we could see him again and present our views.

I returned to Chicago, and, hearing nothing, wrote Mr. Chambers on September 10, again putting the case before him and calling his attention to his promises, concluding my letter as follows: "Knowing your own fairness and the announced policy of the Railroad Administration to spread its advances in rates in an even and equitable manner, I cannot believe that it is your intention to force us to go before the Interstate Commerce Commission to secure a modification of the brick advance to a relatively fair and reasonable basis."

I again returned to Washington and interviewed Mr. Hastings and asked him if he had prepared for Mr. Chambers any statistics on the brick traffic; he answered in the affirmative, and at my request gave me his figures over night to study at the hotel. He had figures separated as to the brick traffic as to only two railroads, and these figures supported our position as to the unfair and excessive percentage advance in the brick rates. We filed an analysis of those figures.

The matter dragged along with an interchange of telegrams and many promises of decisive action. On November 13 I wired Mr. Chambers as follows: "Have you reached your decision on brick rates? Changed conditions make readjustment imperatively necessary. Brick on account of its heavy loading cannot stand up under present rates against competitive materials in bidding for new

work." And on November 15 Mr. Atkins, traffic assistant, wired me as follows: "Decision with respect to brick rates will be made very shortly."

DECISION REACHED GROSSLY UNFAIR

On December 10 I received a telegram announcing the decision of the United States Railroad Administration to rescind the advance in General Order No. 28 and substitute in lieu thereof an advance of 25 per cent. with a minimum advance of 20 cents a ton and a maximum advance of \$1.00 a ton. I called a meeting to consider this proposal and at this meeting the following telegram was forwarded to the Railroad Administration: "Chicago, December 12, 1918. Francis B. James, Esq., 804 Westory Building, Washington, D. C. In meeting here today Barbour, Blair, Terwilliger, Moulding, Butterworth, Allison, Manning, Renkert and Felsenthal join in authorizing and requesting you to notify railroad administration that any advance in brick rates over forty cents a ton wholly unacceptable and will be vigorously contested. Cement chief competitive product usually taking higher rates gets no advance over forty cents. Maximum on coal fifty cents, on ore thirty cents. Wholly unfair to give brick the same maximum as lumber. Proposed maximum if not reduced will be destructive of long haul brick traffic and advances over forty cents will result in lessening rather than increasing railroad revenue from brick. Will be ruinous to individual plants whose investment is made on basis of reaching markets where rates on June 24 were \$1.60 or over. Can not make too emphatic our protest against the unfair and excessive maximum of five cents. Have wired Prouty. (Signed) M. F. Gallagher."

I heard nothing further until about January 5 and on that date was advised that the Railroad Administration had changed its mind and would do nothing. The letter of information was as follows: "Washington, January 3, 1919. Mr. M. F. Gallagher, Attorney, Tribune Building, Chicago, Ill. Dear Sir: Under date of December 10 I wrote you apprising you of an agreement reached between this division and the division of traffic relative to the brick rate adjustment to be substituted for the basis of increase authorized in General Order No. 26.

"I have just learned that several of the district committees have under consideration the recommendation of mileage scales applicable to brick traffic within the several districts. I have heretofore suggested that the adoption of reasonable mileage rates on this commodity would afford the best solution of our various rate adjustment problems and since this is already under consideration I have arranged to hold up the adjustment outlined in my letter referred to above.

"I have asked the various committees now giving consideration to these scales to expedite their work as much as possible so as to make these effective at an early date. Yours very truly. (Signed) C. A. Prouty."

WON'T ACT ON INFORMATION PRODUCED BY SHIPPER

This recital needs little comment. No one on the McAdoo staff went seriously into an investigation of the brick rate problem. No one would take responsibility for definite action. A grave injustice to a great industry was allowed to go on month after month unremedied, altho at no time would any member of the McAdoo staff defend the advance of 40 cents a ton. The attitude was characterized thruout by that peculiar cast of mind, not uncommon among railroad traffic men, that refuses to accept and act on reliable information because produced by the shipper. The attitude and action of the Railroad Administration towards the freight rate problem of this great industry was evasive, changeable, vacillating, super-

ficial in consideration—a succession of broken assurances.

Happily the Railroad Administration is not final. The Interstate Commerce Commission has the power, recently asserted in several cases, to revise all rates prescribed in General Order No. 28, and it is a comforting thought that in the past the Interstate Commerce Commission has acted after securing accurate and comprehensive information, clearheadedly and with courage. It has studied its case, rendered a decision and stuck to it.

BRICK WEIGHTS COMPARED WITH OTHER MATERIALS

Now, as to the freight rate problem of the brick industry: The fundamental and tremendously important problem of the brick industry is to keep its railroad rates comparatively low. The first reason for this is competition with lighter competitive materials. A general advance in rates, say, of 25 per cent., on all commodities, might appear to be fair to brick, but it falls with undue weight on brick because brick is a heavy loading commodity, and for a given job of building or road work when brick is used, a far greater proportion of the aggregate material undergoes railroad transportation. To illustrate: For a square yard of paving the carriers handle 400 pounds of brick as against 150 pounds of wood blocks. It requires 10 tons of brick to build as much wall as one ton of lumber, six tons of brick to build as much wall as one ton of cement, twenty tons of brick to face as much wall as one ton of stucco; for paving it requires 13.2 tons of brick to one ton of asphalt, 4.40 tons of brick to one ton of macadam, and 2.62 tons of brick to one ton of creosote blocks for the same street or road area.

If the rates on cement and brick are advanced in equal amounts as they are under General Order No. 28, the advance does not in fact place an equal burden of the freight charges on cement, for the reason that cement is not in itself a paving or building material, but is mixed with a greater proportion of sand, gravel or crushed stone, and a far greater amount of brick, in weight, goes into a given area of road or wall than cement. Consequently, while an advance on both brick and cement of two cents might appear to be fair, it in fact places a far heavier burden on the brick industry in actual operation.

The tremendous importance of the problem of rates on brick, in view of the competition with lighter materials, can not be overstated.

Rumors of another general advance in rates emanate from Washington. If another general advance is necessary, as is claimed, to meet the mounting costs of operation, to what extent, if any, shall it fall on the brick industry?

Another fundamental reason for keeping brick rates down to a reasonable basis is the fact that building and paving are not generally matters of dire necessity, like, for example, food. Ice in summer and coal in winter may be necessary, but building and paving projects will be abandoned or deferred if the cost is too high.

In the case of brick, freight rates enter to a very great degree into the cost of the work. It is not a situation where the manufacturer or producer can pass the freight rate on to a consumer and consider it of no concern, because the relation of the freight rate to the amount of work done is close and vital.

I do not know of any industry which is more deeply and vitally concerned in the level of its freight rates than the brick industry.

BRICK EASILY TRANSPORTED

There are many reasons why the brick traffic should be fairly dealt with by the carriers. It is a traffic that in-

volves a minimum of service, and it is a desirable traffic for the carriers. Every fact that tends towards low rates is found in connection with the transportation of brick. Without attempting an argument, I may mention some of them.

The value of the commodity per carload is comparatively low.

Any kind of car that you can wheel into is furnished for the movement. More different kinds of cars can be used for moving brick than any other commodity.

The carloading is unusually heavy. As a rule, it is 10 per cent. above the marked capacity of the car.

There is no risk to the carrier in transportation. Practically no claims for loss or damage are ever filed; in case of wreck the salvage is 100 per cent. Contrast the numerous loss and damage claims in connection with other traffic.

There is a constant large volume of tonnage during the summer months when operating costs are low and cars plentiful.

Cars of brick are moved for particular shifts in large bunches.

No particular kind of cars being needed in the brick movement, there is no empty return movement of the cars to the point of origin, like there is in the coal traffic, the same cars being available for reloading at destination with other freight.

The consignor loads and the consignee unloads.

There is a speedy release of equipment; the cars are loaded the same day they are placed and unloaded the same day they are placed.

Brick is a very slow moving freight; it is frequently side-tracked to favor the movement of other commodities. It requires no special or expedited service.

The commodity does not dirty or damage the cars.

There are many other reasons of great weight for comparatively low rates on brick.

So far as freight rates are concerned, the greatest of all problems for the brick industry is to keep its rates down to a comparatively reasonable basis.

RAILROADS SHOULD BE SERVANTS, NOT MASTERS

The railroads are constantly seeking greater revenue from commerce. In this clash of economizing interests the brick industry must assert and defend its rights. The life and death of the industry are involved in its freight rate problem. The brick industry must educate the railroads as to the internal problems and needs of the brick industry. This industry should not fall under the complete domination of the railroads. The question of what is a reasonable rate is a judicial question, requiring a hearing and a full investigation of all facts, and the Interstate Commerce Commission and the courts have repeatedly said that rates must be reasonable, as to the railroad, as to the shipper, and as to the public. In adjusting freight rates on a basis of relative justice, as between commodities, there is more involved than providing revenues for the carriers.

The power to make rates unrestrained is the power to destroy. Rates should not be made prohibitive and destroy traffic.

Railroads must remain the servants of commerce and not its masters; the fairly remunerated servants.

MILEAGE SCALE OF RATES ON BRICK

But probably uppermost in your minds at this time is the proposal of a mileage scale of rates on brick based on a percentage relation to class rates. At this very moment this proposed basis of rates is being worked out.

The original suggestion for C. F. A. territory was that brick rates should be constructed on the basis of 65 per cent. of the sixth class rates. The Brister Committee now proposes a basis of 70 per cent. of the sixth class for brick of all kinds, and 80 per cent. of sixth class for hollow tile.

Shall brick rates be reconstructed on the basis of a mileage scale? And if a mileage scale, how rigid or how elastic? Can the brick industry adapt itself to a mileage scale and prosper? This is a problem which I will not undertake to solve. It is largely a great business question. It should not be worked out by the railroads alone, but by the brick interests. If brick rates in the past have been made on any principle, it has been upon the principle of what the traffic will bear. A rigid mileage scale basis will cause derangement and require readjustments. The location of brick plants is not determined by the choice of the manufacturers, but plants must be located primarily with respect to their main raw material. It is highly impractical to have a relocation of brick plants in response to shifting rate adjustments. Rigid mileage scales ignore the fact that lower rates have been made to great markets like Chicago and New York to which a great volume of brick moves. New York, with its estimated demand per year of common brick ranging between 700 and 800 million, and of face brick of about 75,000,000, Chicago with its annual demand for common brick of between 850 and 900 million, and face brick of about 100 million, have special claim to lower rates than are generally in force. A fixed mileage scale ignores all the cardinal principles on which freight rates in the past have been constructed. The fundamental principles of cost of service to the carrier, value of service to the shipper, volume of the commodity moving, general traffic density over the lines on which the traffic moves, competition as between manufacturers and producers, competition as between destinations, inter-railway competition, what rate will permit and what rate will prohibit the movement, the earnings and prosperity of particular railroads, possibility of increase of traffic at lower rates, the direction in the movement of empty cars, cost of construction of road and character of territory it traverses, all physical conditions governing the transportation, making of rates to develop business—all are disregarded.

If a mileage scale is inevitable, then the measure of the progressive rates applicable to the mileage scale is of vital and paramount importance. Shall the rates be in relation to class rates, if so, 40 per cent. or 70 per cent. of sixth class?

On January 24 last a proposed mileage scale on sand, gravel, crushed stone and slag was announced. According to the sand men the proposed rates under the new scale were 25 per cent. to 40 per cent. higher for single line hauls (greater for two-line hauls) than the rates in effect under General Order No. 28. Many of the rates under the new scale would be increased 200 per cent. The policy of the railroads is to gradually increase rates getting more revenue wherever they can. The men who make the rates for the railroads do not understand the internal problems of the brick industry; they do not keenly perceive the competition with the lighter competitive materials or the close and vital relation between the level of freight rates and the work that will be done.

FIFTEEN MILLION TONS OF BRICK MOVED ANNUALLY

Brick pays enormous revenue to the carriers. Taking 1915 as a fairly normal year, the production of face brick at 5.5 pounds each was 2,353,087 tons; paving brick, at 8.05 pounds each, 4,051,674 tons; and common brick, at

5 pounds, 17,147,747 tons, or a total of 23,533,508 tons. It is roughly estimated that 90 per cent. of face and paving brick and 50 per cent. of common brick is moved by rail transportation. On that estimate the weight of brick moving annually by the carriers is approximately 15 million of tons, not including hollow tile.

In the readjustment of rates on this stupendous traffic, manufacture of face, paving and common brick and hollow tile have much in common. In unity and united action there is weight and power. Cooperation and unification of effort awakens interest and arouses enthusiasm. Only by cooperation can the normal power of the whole industry be utilized, and force and effectiveness given to preventive and offensive measures. In contending for a fairly reasonable level of rates, in dealing with the problem of the proposed mileage scale, in accomplishing a fairly measured scale of progressive rates in the mileage scale, if a mileage scale is unavoidable, above all, in adjusting rates on brick on a relatively fair basis when compared with rates on competitive materials, a carefully organized scheme of cooperation with clearly defined objectives, on which all agree, seems imperatively necessary, if the common and vital interests of the whole industry are to be safeguarded and defended.

* * *

Stark County to Start Road Building

According to recent reports, a revival of Stark County's brick industry will follow in the wake of an extensive road improvement program under consideration by state and county as one means to alleviate an unemployment crisis. Federal and state officials are urging an expenditure of approximately \$15,000,000 in Ohio, of which Stark County's share will be probably \$1,000,000.

C. C. Blair, vice president of the Metropolitan Paving Brick Co., which operates four plants in Canton, three in Youngstown, one in Cleveland and a fireproofing plant at Minerva, said recently that his company was optimistic over the outlook and was preparing for a resumption of activity as soon as tentative road improvement plans assumed definite form. Under normal conditions about 1,200 men are employed, 500 of them in the four Canton plants. At the present time only about 200 men are given employment by the Metropolitan company under the policy of restriction brought about by the Government.

Tentative plans of the Stark County commissioners call for 13 miles of road improvement during 1919, which does not include eight miles to be completed on the Lincoln Highway awaiting action by the state to fix its proportion of the total cost.

In commenting on the labor situation, Mr. Blair said: "After the immediate period of transition is passed and the work of reconstruction gets fairly under way, there is little chance that wages will be a great deal lower. The probabilities are that labor will be more plentiful and wages lower within the next year than they will be later on. The item of labor cost determines in large degree the cost of public improvements and it would seem that work could be done relatively cheaper at this time than later on when there is more general demand for workers, with a lessening of the supply and higher labor costs."

* * *

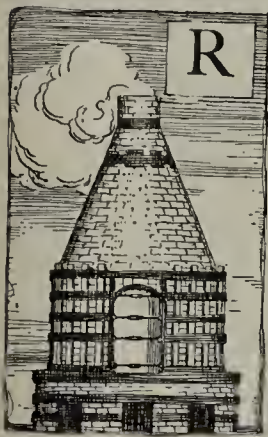
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ELECTRICAL PORCELAIN SPECIALTIES



RAPID AND PRONOUNCED advancement has been made during the past few years in the development of electrical porcelain. Not only is this true with regard to features of manufacture, but in the wide variety of specialties possible of production from this material for everyday utility. Hundreds of different articles are now being produced from hard porcelain for electrical service, ranging from such small items as bush-

ings, cleats, knobs, sockets, etc., to medium and large insulators for low and high tension electric transmission systems of varying voltage, caps and bases, mine insulators, and numerous other products. It is safe to say that leading electrical companies require upwards of 200 to 300 individual electrical porcelain specialties for the manufacture of the many, now standard, commodities available for service in various branches of the industry, and as for actual use—one might say a thousand and more.

The value of the material for this purpose is too well known to need of mention; its non-conductibility, hardness and resistance to breakage when subjected to the demands of the service for which intended, all demonstrate why its use has become so popular, and why it is destined to increase in scope of attainments as time goes by. And this latter is not limited solely to the electrical industry, for while commonly known as "electrical porcelain" in accord with the particular character of employment, the same material, or what might be better expressed as "hard porcelain" is finding its way into the manufacture of specialties for other lines of work. For instance, in the textile industry, porcelain eyes, heretofore made in Germany, are now being produced in this country with highly satisfactory results.

EFFICIENCY IN PRODUCTION REACHED

The production of electrical porcelain goods has reached a defined point of efficiency in many different plants. From the mixing of the clay to the molding, drying, glazing and other operations leading to the finished article—each is carried out with accuracy, facility and dispatch, making possible reduced production costs and con-

sequently low prices for the completed commodities. Formerly, sections or departments of plants would be devoted to this feature of manufacture; today the entire capacity of clay and pottery works is given over to the production of electrical porcelain specialties, with every possible means employed for right and economical production under large output and facilities.

The Cook Pottery Co., at Trenton, N. J., operates two plants in this city for the manufacture of porcelain goods; the first, located on Prospect Street, is used exclusively for electrical porcelain products, while the second factory is employed for the production of table ware. Considering the first noted works, this plant has been laid out in a manner to afford efficient operation in each department of manufacture. Every feature has been considered, and all factors necessary for production, and good production, are available under one roof, from raw material to finished product, packing and shipping. Nothing is wanting to make for the maintenance of dependable and high character of output.

The plant, two-story and basement, is now giving employment to about 250 persons. In the basement, a mixing department is installed, with conveniently located bins for clay storage. Imported clays are necessary for many items of manufacture, owing to their unvarying and reliable nature, and for these fine clays which are carefully selected, a refrigerating room is provided; here the temperature is maintained at low point to keep the clay in proper working condition at all times.

PRESSING DEPARTMENT WELL EQUIPPED

The pressing department consists of a total installation of about 60 modern presses for molding the shapes. These presses are run by individual operation, and the work is carefully inspected and gauged at regular intervals in order to insure utmost accuracy. The articles are stamped out by the use of steel dies under heavy pressure. The formation of these dies to an absolute, correct fractional measurement, is a highly important matter, and to handle this work a complete machine shop and tool-making department has been established, equipped with lathes, shaper, drill presses, and auxiliary apparatus. Only the best grade of steel is used for this purpose, and the dies are made by skilled tool makers. As an idea of the vast number of electrical porcelain specialties which the plant has made from time to time, it is interesting to note that no less than 1,400 dies have been made to cover the production of different articles. Each die has its individual number and is carefully kept.

From this pressing department the product goes to the drying room, the material being handled by means of small hand-trucks with a number of shelves. The drying room consists of a system of steam coils, with suitable housing, running the full length of the building. At regular intervals openings are provided in the form of large doors, for placing the ware in the chambers; here the

material is allowed to remain for about a day, or until the moisture is removed.

The ware is then taken to the finishing department, and in which a force of women operators is employed. Every piece is gone over and carefully inspected, and all "fins" and ragged edges removed. This work is particularly necessary where the porcelain article is designed to fit with another, or with a metal part, as any blemish would bring an unsatisfactory joint. In some instances, the material as required cannot vary one sixty-fourth of an inch; every piece not coming up to the desired standard is rejected. A complete glazing department has been installed, and the material goes to this section of the works after leaving the finishing department. Here the material is dipped and made ready for firing.

There are eight kilns at the plant, all of which, however, are not in operation at the present time. The kiln capacity used aggregates about 4,000 cubic feet, and about three to four days are required to fill one of the kilns with the ware ready for firing; a total of 20 men is usually engaged in this work. The ware is fired to a temperature of 2,462 deg. Fahr. requiring from 55 to 60 hours continuous operation. Under this heating process, the ware is fused into a mass and made thoroly non-absorbent, with great dielectric strength.

RAPID HANDLING IN SAGGER DEPARTMENT

The saggars for this work are made in the sagger department at the plant. Here two sagger-making machines are installed, and facilities provided for rapid and efficient handling of the material. In another section of the plant, a room has been provided for the manufacture of spark plugs, and of which many, many thousand are produced at the works. This department is equipped with presses and other apparatus necessary for production; the spark plugs are handled in an effective way on boards when ready for firing in the kiln. A complete stock room is maintained at the works, with full assortment of all items required for manufacture, and facilities for keeping accurate account of different materials as placed to service.

In another section of the plant a shipping department has been arranged, and here the different electrical porcelain specialties are carefully handled, sorted and packed. Each piece is subjected to a final inspection, and tests made for cracks and blemishes; all material not up to requirements, or 100 per cent., is thrown out. The loss in production in all departments of the work, including breakage, is said to average about 20 per cent. Particular care is required in the packing of porcelain spark plugs and other small items, to eliminate all possible breakage in transit, and in many cases material of this nature is pinned to boards to prevent contact in handling and moving.

The Cook Pottery is producing many important products for prominent electrical companies in different parts of the country at this plant. The work, following a knowledge of details and requirements, is carried out in entirety, and supplied to the purchaser as a finished article ready for immediate service, or for use in the construction of large electrical apparatus.

"PIG TAIL" PRODUCTION

In accord with its progressive policy, the company is constantly increasing its scope of operations, and a recent development is the manufacture of porcelain specialties for the textile trade. This work at the present time is handled in a separate department, with bulk of production devoted to the manufacture of eyes or "pig-tails," as commonly called. These consist of an intricate porcelain

spiral, about $1\frac{1}{8}$ inches in height, and $\frac{3}{8}$ inches in diameter, with cored hole about $\frac{1}{8}$ inch in diameter. They are made in a manner closely following the manufacture of electrical products, employing steel dies with individual press operation. This plant is one of the few, if not the only one in this country, producing specialties of this nature, and which are in wide demand by the different textile works.

Charles Howell Cook, well known in ceramic and financial circles, is president of the company, and the success attained is unquestionably due to his untiring efforts and foresight in handling the affairs of the organization. He is also president of the New Jersey Clay Workers' Association, and a director of the School of Industrial Arts. Trenton.

* * *

Better Quality Ware Now Being Produced

It is a well known fact that in many instances ware has been turned out of the kilns during the war season that at any other time would be "thrown over the dump." The trade was willing to take anything, so it seemed, and both manufacturers and buyers were compelled to put up with many inconveniences that in normal times would be scoffed at. Now that the war is over, victory achieved and conditions fast resuming normal, manufacturers are insisting on better quality. They are being backed up in this contention by the buyers.

On the other hand, however, the manufacturers many times were simply compelled to use materials that were far from being up to standard. Coupling such materials with the don't-care attitude of some workers a class of merchandise was produced that was not perfect. Those days have gone. There is a growing tendency among all pottery workers now to give the best effort to their employers. The manufacturers are insisting upon high grade clays and other materials. The result is already noticeable in the production of a higher grade of merchandise. What has been contended with in the pottery industry, has also been experienced by manufacturers in other lines.

* * *

Potters Satisfied With Present Wage Scale

At this time it is evident that the workers at their summer convention—that of the National Brotherhood of Operative Potters, will not ask for an increased wage. The statement has been made, however, by many workers, that delegates to this convention from the various local unions will insist that their representatives on the joint wage conference will oppose any reduction.

Wages in the domestic pottery industry at this time are the highest ever paid in the history of the industry, either locally or in foreign shops. The fact that the workers do not hesitate to say that they are satisfied with existing conditions is considered a good omen. The manufacturers are disposed to continue present schedules as long as it is compatible with conditions, and therefore at the joint wage conference a season of clear sailing is anticipated by both workers and manufacturers.

* * *

The Equitable Pottery, Lalor and Hancock Streets, Trenton, N. J., has commenced the rebuilding of the department of its works recently damaged by fire. The loss, estimated at about \$6,000, was confined to the building, a number of electric motors, elevator, as well as finished product in the basement of the plant.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Condensed Data on Belt Conveyers

The following general rules, which embody the best in belt conveyor practice, have been collected out of the various pages of a book prepared by the Jeffrey Manufacturing Co., for the convenience of superintendents, most of whom have a lot to do with conveyors.

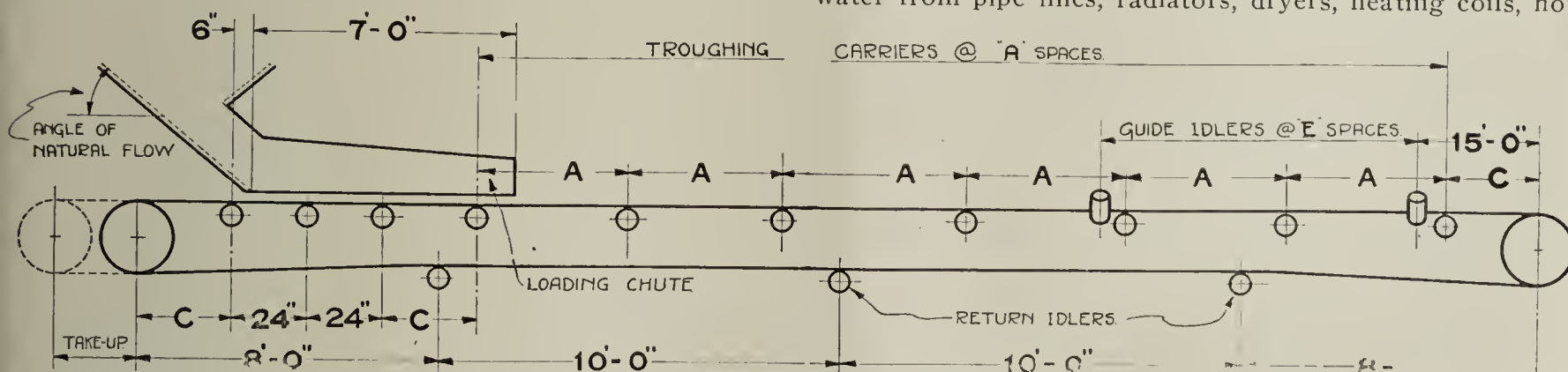
Width of belts: For loose materials use at least four times the uniform size of material handled plus six inches or four times the average sized pieces plus six inches where such pieces are about 70 to 80 per cent. of the whole. The width of the belt in no case should be less than twice the largest pieces to be handled plus eight inches, where such pieces do not exceed 10 per cent. in uniform distribution of all the material carried.

The capacity in tons per hour of materials weighing fifty pounds per cubic foot and carried over three or five pulley troughing carriers is approximately 8 per cent. of the square of the number of inches in the width of the belt, for each 100 feet of belt speed per minute.

The maximum speeds of belts for loose materials equal approximately an initial speed of 250 feet per minute for a ten-inch belt, plus ten feet per minute for each additional inch of belt's width. Slow speed 150 feet per minute. Speeds of package conveyors 75 to 125 feet per minute; of picking or sorting belts 40 to 50 feet per minute.

Belts are ordinarily installed to carry horizontally, altho most materials readily may be carried in a trough belt at 18 to 20 degrees to the horizontal, many others as high as 21 to 23 degrees and some few at 25 degrees. Large lumps have a tendency to roll back upon the belt unless they are well intermixed with smaller pieces. Also an intermittent flow of most materials, near 20 degrees has a tendency to cause slipping and often avalanching of all the material on the incline. Care should therefore be taken to insure a continuous stream, either large or small, of uniform sized or of well intermixed unsized materials.

The horse power required is: Approximately 2 per cent. of the number of tons per hour carried for each 100 feet of horizontal belt length and 1 per cent. additional for each 10 feet rise of incline. Increase this horsepower at the belt 5 per cent. for each driving reduction thru chain, belting or cut gears and 10 per cent. for each reduction thru gears to obtain the final horsepower at line shaft, motor or engine.



Layout for a Belt Conveyor Showing Standard Spacing of the Various Fixtures. For Dimensions Represented by Letters Refer to Accompanying Table.

Proper flexibility in belts for troughing carriers is one ply for each four or five inches of belt width, with 12-inch, 3 ply as a minimum and 48-inch, 8 ply as a maximum in ordinary service.

Spacing of Troughing Carriers and Guide Idlers

Width of Belt, Inches	A—For Materials		Sorting Belts only	C	E
	Not over 100 lbs. Cu. Ft.	Over 100 lbs. Cu. Ft.			
14-16	5'-0"	4'-6"	.....	2'-6"	30'-0"
18-20	4'-6"	4'-0"	.....	3'-0"	45'-0"
24-30	4'-0"	3'-6"	3'-6"	3'-0"	45'-0"
36-42	3'-6"	3'-0"	3'-0"	3'-0"	45'-0"
48	3'-6"	3'-0"	2'-6"	3'-0"	.....

Table Giving Dimensions of Spacing of Troughing Carriers and Guide Idlers for Different Requirements.

The average rubber belt has an ultimate strength of 360 pounds per inch width of each ply, with a safe working tension of 30 pounds per each inch width of each ply. Factor of safety 12. The pull required to move a belt over its carriers upon the level is approximately 20 per cent. of weight of belt plus 10 per cent. of weight of load upon the belt.

Terminal pulleys should be as follows: The diameter of drive pulleys in ordinary good practice is 5 times the number of belt plies with the diameter of all other pulleys taking 180 degrees wrap 4 times the number of plies.

Cleaning brush speeds are ordinarily 800 to 1,000 feet per minute at the surface for dry dusty materials; 1,000 to 1,200 for damp materials; 1,200 to 1,500 for wet, sticky materials.

We suggest that you make a note of the data contained in this item and keep it for future reference. We hope to expand on the topics contained in each paragraph above in future issues, but the material as now presented is condensed in a very convenient manner so as to be of help to those who are interested in this information.

✻ ✻ ✻

How to Take Care of the Steam Trap

The ordinary steam trap which is used for draining water from pipe lines, radiators, dryers, heating coils, hot

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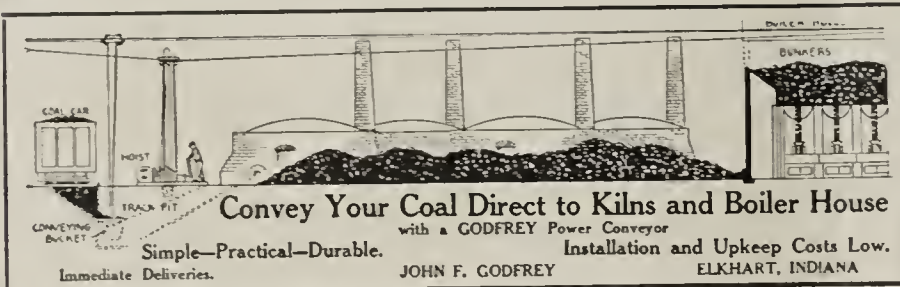
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floors and other steam apparatus is often likely to be neglected in regard to being inspected at proper intervals. Each leaky trap represents an important and serious loss of water or steam.

The principle upon which the usual steam trap is based is in the use of floats and a valve for shutting off the outlet when the water is all discharged. Of these, perhaps the majority of traps which have not had recent attention are found to be leaking, slightly or seriously. The more common reasons for this are because of an accumulation of dirt or rust on the valve seats, or the wearing away or cutting of the valve seats or the valve itself.

There are cases where the float becomes water logged and hence sluggish in operation. The result is that the steam blows out even after the water is all discharged. Or the trap may become air bound which makes its operation slow. A further trouble may be that the trap becomes filled with mud or sediment from the water and pipe lines clogging the moving parts of the trap and causing it to leak.

One man who realized the need of frequent inspection of steam traps on his plant charged one person with the task of making regular trips to this apparatus to determine if it was in good operating condition. In addition he blows off the trap to rid it of air and any accumulated sediment. The inspector often reported that traps were sticking open and blowing steam without any trapping action at all. Whenever this trouble is chronic the trap is immediately replaced, because the saving in having the trap operate properly pays for a new one in a short period of time.

It would pay to have a record sheet made so that the date of inspection could be noted and also the condition of the trap at the time of the examination.

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On the Drying of Raw Clay

In an issue of one of our English contemporaries, the "British Clayworker," there is published a question by a clayworker to which an answer is given, both of which should prove of interest to many of our readers.

The correspondent asks: "What is the most efficient and economical way to dry from 50 to 100 tons of fresh dug plastic clay in a day of nine to ten hours? This must be sufficiently dried for grinding and passing thru the grids of the pan, when cool, say 24 to 48 hours later, and after being mixed with a preparation of damp clay to make it hold together as a strong semi-dry brick when it comes from the press. Is it cheaper to dry on a flat surface by a system of hot flues, which entails throwing clay on and off, also possibly turning to allow the steam to escape, or by means of a rotary heated cylinder? Are the latter obtainable now? If so, what was the cost per ton of clay dried? Is the wear, tear and depreciation costly and troublesome, and is the life of cylinder bearing and working parts generally short?"

The answer returned consisted of the following information: "For dealing with 50 to 100 tons per day of plastic clay a cylindrical dryer is preferable on account of the large amount of labor it saves. Whether the dryer should be vertical and stationary or inclined and rotary depends on the nature of the clay and on its properties during the drying. A clay which retains its plasticity very tenaciously will usually give better results in a rotary dryer, but in some cases a stationary cylinder with an internal stirring device is preferable. There are many de-

tails in connection with the selection of a dryer for this kind of work which can only be decided by an independent expert who has paid adequate attention to the particular clay to be dried.

"With regard to the latter part of the query, the cost per ton of clay dried naturally varies with the percentage of water, and with the ease with which the clay can be dried. General figures are often most misleading when applied to a given clay, but as an example may be mentioned a highly plastic, dense clay with 16 per cent. of water, which was dried at a cost of 10d. (20 cents) per ton, including depreciation charges.

"This could probably be improved as a result of the experience since gained, as this clay was abnormally sticky and clotted in large lumps, which tended to pass thru the rotary cylinder without being broken up until special arrangements were made to prevent this. The wear and tear on a properly designed dryer is neither troublesome nor costly, but if the dryer has been 'home made' or badly designed, repairs and stoppages easily add an additional 1s. 6d. (36 cents) per ton of clay dried.

"The question as to the desirability or otherwise of drying a plastic clay in order to work by a semi-dry process is a very difficult one; in most cases it would be unwise to endeavor to do so."

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Does This Express Your Conditions?

If you have ever visited a number of small clay plants you undoubtedly have noticed that many of them have very poor working conditions in the clay pit. You will find ruts thruout the land between the plant and the clay hole which almost make you seasick to look at. The poor old horse does his best hauling his cart of clay, but cannot help but have a Bolsheviki frame of mind, if he only could express himself. However, do not fool yourself that the effect of such poor roadways are not expressed because it is obvious that "Dick" cannot transport as much clay as would be possible were the pike given a dose of that medicine which is now so popular (reconstruction).

We are sure that it would pay to fill up those ruts and ballast that road, and give the horse less work hauling a ton and a half of clay, where he now hauls one ton.

Then, too, there is that semi-parallel system of twists, crooks, dips and humps called a track and used for transporting clay from the pit to the plant, but which could be of more profitable use in "Coney Island." Surely it would pay to line it up and ballast it, so that a mule could haul four or six tons instead of two. One horse has regularly hauled sixteen tons of clay over a track, but it was not a grape vine.

There are also a number of large plants where the same criticisms apply, but where the dinkey engine takes the place of the horse.

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To Prevent Rusting of Machinery

Take an ounce of camphor, dissolve it in one pound of melted lard; take off the scum, and mix with it as much fine black lead as will give it an iron color. Clean the machinery and smear it with this mixture; after twenty-four hours rub clean with a soft linen cloth.

Kerosene and vaseline have also been used for the purpose of removing rust and keeping machinery in good condition. If any one has used some other materials for this purpose we would be glad to hear of it and find out with what success it has been used.

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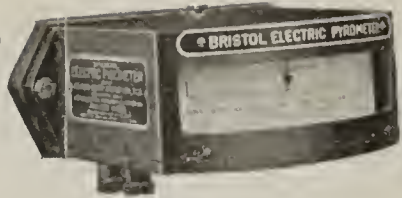
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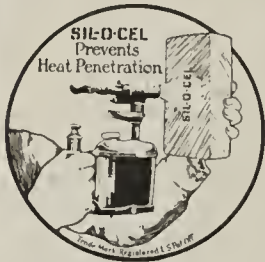
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Clean, profitable fuel for burning clay products. Used by some of the largest concerns in the clay products industry.

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BRODERICK & BASCOM ROPE CO.

SAINT LOUIS, MO.

Manufacturers of

B. & B. WIRE ROPE

AND

Aerial Tramways
For Economical Haulage



QUESTIONS

A Three Cent Stamp May Bring You Advice That Will Stop a Waste, Improve Your Ware or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

What is Fair Royalty to Ask?

896. *Nebraska*—We have a bed of extra fine brick and tile clay located here and a brick company is thinking of putting a plant in here and has asked for price on the clay or shale. We have offered to let them in on a royalty basis on the finished output. We have trackage into the pit and would like to know what would be a fair royalty per one thousand brick on this material in the bank or pit. What are the usual royalties paid by brick companies for clay in the pit? Bear in mind, we are asking royalties on the finished or salable product.

We have obtained the following information from a clay plant, in answer to your inquiry: "We would be inclined to state that the amount of royalty paid on shale depends entirely upon the surface values in the territory from which the shale is taken. In this district we pay for shale one cent per ton of 2,000 lbs. and three cents per ton for clay, but with these materials we take coal for which we pay royalty of 12 cents to 15 cents per ton. The thickness of these various veins is such that the person from whom we lease usually realizes \$600 per acre for the land which we use, so I should say that royalty in any neighborhood is calculated on the value of the land in that particular neighborhood. We find in farming communities where farm land sells at \$200 per acre that our royalty has to be increased proportionally."

If you will refer to page 1162 of the December 31 issue of *Brick and Clay Record*, you will find information under No. 877 Alabama, which will be of interest to you, regarding the payment of royalty.

Another clay plant owner writes as follows: "While I am afraid I am hardly competent to fix a price relative to the proper royalty on a clay supply, I will be glad to make a suggestion as to how it could be arrived at.

"First, I would determine either from geological survey or extensive borings, the number of cubic yards of clay or shale available. Assuming a fair price for the land, with all improvements, side track, etc., dividing this by the number of yards of material we would have the value per yard as it lies in the ground. Taxes and carrying charges for the length of time required to exhaust the supply should also be taken into account.

"Having fixed the actual cost the selling price could be determined by the addition of a fair profit and what fair profit should be depends very largely upon the nature of the material and the purposes for which it is adapted. For the manufacture of common brick, the manufacturers could probably not afford to pay more than a few cents per ton while a clay suitable for face or fire brick would be worth proportionately more. It is largely a matter of charging 'what the traffic will bear' and after your correspondent has

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

determined his cost he probably will have no difficulty in fixing his price.

"I have assumed that the manufacturer of the brick would stand the expense of winning the clay, if not this would have to be added to the original cost, not forgetting to take into consideration the stripping required to uncover the clay."

If any *Brick and Clay Record* readers can give additional light on the subject, we will be glad to hear from them.

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Relative Importance of Clay Products

895. *California—Will you kindly give us the most recent government statistics available on relative importance of the clay products industry in the United States? It is our recollection that this ranks about fourth in importance but we wish to be sure of this before making use of the information. We would also like to know what industries rank above the clay products in their respective importance. We know that you are sort of a clearing house for information of this character and trust that you may be able to give us the desired information.*

We are glad to be able to uphold our reputation with you in regard to being a sort of clearing house for information and trust that the data given herein will meet with your requirements.

In the June, 1918, issue of the Journal of the American Ceramic Society, a number of charts were published, showing the value of various products manufactured in the United States. The figures are the government official figures, taken from the census reports for the year 1914. Later reports are available in many instances but the world war has created such havoc with industrial statistics that the older figures are considered more reliable in showing relative proportions of the various industries. For the manufactured products the figures are:

Cotton goods	\$701,000,000
Men's clothing	584,000,000
Chemical industries	548,000,000
Ceramic industries	447,000,000
Petroleum refining	396,000,000
Woolen goods	395,000,000
Electrical machinery	335,000,000
Blast furnace products	318,000,000

For mineral products the figures are:

Coal, soft	\$493,000,000
Ceramic products	447,000,000
Iron ore	299,000,000
Petroleum	214,000,000
Coal, hard	188,000,000
Copper	153,000,000
Gold	94,000,000
Silver	40,000,000

The statistics regarding agricultural products are of the



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"For Continuous Production"
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Vandalism
 By equipping your watchman and burners with a
HARDINGE
Watch Clock



You will save in insurance more than the cost of the clock system—to say nothing of the increased efficiency of your night force.

Write for details
Hardinge Bros Co., Inc.
 1760 Berteau Ave., Chicago, or
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Reliance Jaw Crushers

Speed up the work, and ease the strain on dry pans by installing a **Reliance Guaranteed Jaw Crusher.**

In some instances, the increased efficiency thus obtained has been remarkable.

Write us for booklet on Crushers. We also can give you information on Elevators, Screens, etc.

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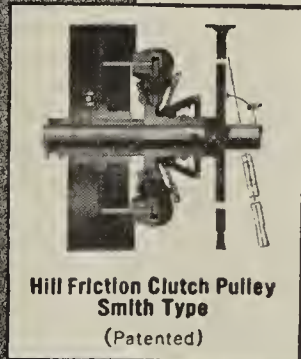
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 (Patented)

We Can Save You Time, Money and Trouble on Fire Brick

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Quality, Price and Service

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A Trial Shipment Will Convince You. Write Us

ALSEY BRICK & TILE COMPANY
ALSEY, ILL.

Attention Mr. Brickmaker

No matter what kiln you use or what kind of fuel you burn, I can show you how to improve the quality of your finished product, providing you get less than 95% firsts.

Let me prove it.

HARRY V. MASON

Pyrometric-Expert and Kiln Specialist.
Clays Tested. Trial Burns.
1153 49th Avenue PORTLAND, ORE.

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Here is proof that Union Steel Chains will excel all other chains in your plant. A large manufacturer of foundry machinery answers an inquiry thus: "The above company (Union Chain & Mfg. Co.) manufactures an **excellent** chain and we are sure that they can take care of your requirements to your **entire satisfaction.**"

This machine manufacturer has many thousands of feet of Union Steel Chain in daily operation in the largest foundries in America. The chains elevate sand, operate mixing machines, etc. This service is the most severe that any chain can be put to. Previous to using Union Steel Chains, this manufacturer had used practically every other make of sprocket chain on the market. Union Steel Chains excel because they are best. Write for prices and details regarding these Trouble-Proof Chains.



**Union Chain
& Mfg. Co.**
Seville, Ohio

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helped the Superior Sand Co., of New Lexington, Ohio, to cut their handling costs from 10c to 1/2c per ton of sand. B-G Conveyors perform equally as well for many others. Watch for our full page advertisements in the FIRST ISSUE of each month.

BARBER-GREENE CO., 515 W. Park Ave., Aurora, Ill.
Branch Sales Offices in Principal Cities

ALLIED ALLIED CONSTRUCTION MACHINERY CORPORATION ALLIED
120 Broadway New York, U.S.A.

greatest interest, for, after all, the United States is chiefly an agricultural nation tho we are very apt to overlook that fact because the agricultural production is made up of innumerable small units rather than large, segregated groups. We do not have a farm or a group of farms to compare with the United States Steel Corporation, but we do have the grand totals of agricultural products that dwarf even our immense totals in manufactured products. The charts showing the relative value of ceramic products in comparison with agricultural products is based upon the following figures:

Corn	\$1,722,000,000
Wheat	878,000,000
Hay	779,000,000
Cotton	720,000,000
Oats	499,000,000
Ceramic products	447,000,000
Potatoes	199,000,000
Tobacco	96,000,000

In all of the above statistics there are included in the ceramic industries the manufacture of clay wares of all kinds, glass, cement, enameled wares, plasters, lime, abrasive products and allied articles usually understood as being embraced within the ceramic field.

If you do not wish to include the total value of ceramic products in your statistics, you might use the following figures which represent the same year:

Common brick	\$ 43,769,524
Vitrified paving brick or block.....	12,500,866
Front brick	9,289,623
Fancy or ornamental brick.....	124,456
Enameled brick	1,075,026
Drain tile	8,522,039
Sewer pipe	14,014,767
Architectural terra cotta	6,087,652
Fireproofing	8,385,337
Tile (not drain)	5,705,583
Stove lining	520,585
Fire brick	16,427,547
Miscellaneous	3,165,814

Total brick and tile	\$129,588,822
Total pottery	35,398,161

Grand total\$164,986,983

The grand total for the same items as shown in the above table, for the year 1916 is \$207,260,091. We do not have the values for other manufactured products for this year.

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Electric Power in Brick Plants

894. Quebec—You have shown so much readiness and skill in your past answers to our inquiries that we again take the liberty of calling on you for your advice concerning electric power brick plants.

The greatest difficulty seems to be in the drying of the brick. We have tried to dry the brick by using the waste heat of our sixteen chambers continuous kiln but with bad results as to color and hardness of the brick. Would a big furnace or the use of one of our boilers still render practical the acquisition of expensive electric outfits? As a strong electric power passes within three hundred feet of the plant, we would like to take advantage of it.

We certainly believe that it is advisable to use electric power whenever possible for power requirements in a brick plant. There is no reason why you should not be able to utilize the waste heat in your continuous kiln if you will follow out certain suggestions.

We believe that you are troubled with the same proposition that confronted one of our correspondents some time

ago, and which we answered in the July 31, 1917, issue of *Brick and Clay Record* under No. 826 Iowa, and believe you will find an answer to your difficulties in the information contained in that item. If after reading this matter over and giving it your consideration, you still are uncertain as to how to dry your brick, write us again, giving us as many details as possible concerning your conditions and we will endeavor to be of as great a help to you as we possibly can.

* * *

IN *the* WAKE of *the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Personal

P. S. and John McKergow of the Mack Brick Co., Montreal, are in Florida.

A. A. Ayer, president of the National Brick Co., Montreal, is in Florida.

R. S. Wilson is now general manager of the Sun Brick Co., Toronto, Ont.

W. H. Gifford, of the Wisconsin Lime & Cement Co., of Chicago, was a recent business visitor in Columbus, Ohio.

F. E. Keeler, of the Mason City (Iowa) Brick & Tile Co. has returned to California after spending six weeks at the plant.

Marcellus N. Barns, aged 69, a retired brick manufacturer of Pittsburgh, Pa., died on March 9 at his home in that city, of complications resulting from Influenza.

Alphonse Brewster Jr., aged 39 years, manager of the Brewster Brick Co., at Brewster, Ark., died at his home in that city of pneumonia, on March 2.

W. J. Hughes, representing the Weller potteries, of Zanesville, Ohio, was recently in Louisville, Ky., where he called on the florists and other consumers of high grade pottery.

Jno. M. Stoner, of the Cincinnati (Ohio) Clay Products & Supply Co., was a recent business visitor in Columbus. He was calling on brick manufacturers and jobbers.

W. J. Goodwin, of the Goodwin Tile & Brick Co. has returned to Des Moines, Ia., after spending the winter in California with his family.

L. E. Stone, former manager of the Shackleford Brick Co., Des Moines, Ia., has taken a traveling position with the Goodwin Tile & Brick Co., Des Moines.

Charles Frank, salesmanager of the Nelsonville Brick Co., of Columbus, Ohio, went to Michigan recently on a business trip to get a line on the amount of paving to be done in that state during the coming summer.

Edwin F. McManigal, general manager of the New York Coal Co., and treasurer of the Hocking Valley Brick Co., of Columbus, was confined to his home for about two weeks with an attack of Influenza.

John C. Broderick, formerly manager of the Canadian China Clay Co., Montreal, Que., leaves for Europe shortly and will visit England and France. The office of the

They Drill Big Blast Holes

at the plant of the Kansas Buff Brick & Manufacturing Co., Buffville, Kansas.

They say:

"It has cut the labor and fuel bill about 60%, and the powder bill about 50%. It paid for itself in the first three months; it saves enough powder each year to more than pay for its initial cost."

This is interesting because it is a fact.

Write for literature on Big Blast Hole Drilling

The Sanderson Cyclone Drill Co.
Orrville, Ohio

"HERCULES" (RED STRAND) WIRE ROPE
(REG. U.S. PAT. OFF.)

Its Strength and toughness
make it durable, safe
and economical

THE ORIGINAL COLORED STRAND WIRE ROPE
MADE ONLY BY

A. LESCHEN & SONS ROPE CO.
ESTABLISHED 1857
ST. LOUIS, MO.
NEW YORK. CHICAGO. DENVER.
SAN FRANCISCO.



DRYERS for PROFIT

30%
New Business
70%
Repeat Orders

IF you "discovered" a dryer to just fit your individual needs, that would give you a better product, and more of it at a lower cost,—wouldn't you swear by it?

That's just what users of PROCTOR DRYERS do,—and back it up with repeat orders.

HERE'S what happened in the Middle West. During the last four years a good number of PROCTOR DRYERS were installed throughout that territory, and

70% of the total went to concerns where PROCTOR DRYERS were already in service, and—

30% of the total went to those who had just "discovered" the PROCTOR.

Proctor
DRYERS

Will safeguard your profits. Some 4,000 now on the job.
Sold with an absolute guarantee.

Philadelphia Textile Machinery Co.

SEVENTH STREET AND TABOR ROAD, PHILADELPHIA, PA.

PROVIDENCE, R. I. CHICAGO, ILL. CHARLOTTE, N. C.
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The Flexible Heating System of

The Standard Brick Drier

can be fitted to the requirements of your clay as a good glove is fitted to your hand—as a fine shoe is fitted to your foot.

Users will tell you that we back up what we say with a specific guarantee—and with RESULTS.



*Write us if you are interested.
There is no obligation.*

The Standard Dry Kiln Co.
1540 McCarty St., Indianapolis, Ind.

You can get a higher price for your brick if you guarantee it will be

Scum-Proof

And you can do this with perfect safety by using

R. H. Precipitated Carbonate of Barytes

It neutralizes the salt in your clay so that it cannot appear on the surface of the brick after it gets wet.

But don't accept a substitute—insist on R. H.—the dependable brand.

Write for circular and prices.

The Roessler & Hasslacher Chemical Company

100 William St.

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Chicago, Ill.
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St. Louis, Mo.
Kansas City, Mo.
San Francisco, Cal.

Philadelphia, Pa.
Boston, Mass.
New Orleans, La.

We carry a complete line of high grade chemicals for the clay industry

Canadian China Clay Co., Ltd., is now located at 43 Victoria St., Toronto.

J. M. Adams, general manager of the Ironclay Brick Co., of Columbus, Ohio, was called to Hanover on business last week. The Ironclay Brick Co. is operating the plant of the Hanover Face Brick Co., and sells all of the product.

J. H. Bell, sales manager of the Louisville (Ky.) Fire Brick Works, has gone to New York and Eastern points to look up some business, planning to be away about two weeks.

D. D. Ormundson, superintendent of the Citadel Brick & Paving Block Co., Bois la Chatel, Que., who enlisted with the United States army, has resumed his former position.

Daniel De Noyelles, one of the oldest manufacturers of brick in the East, and president of the De Noyelles Brick Co., Haverstraw, N. Y., died on March 11 at his home in that city, at the age of 83 years.

J. Martin Stangl, who for five years has been employed by the Haeger Brick & Tile Co., of Dundee, Ill., as superintendent and chemist, has resigned and will leave for the East, where he plans to open a pottery factory at Trenton, N. J.

W. E. Dunwody, president of the Standard Brick Co., Macon, Ga., has just returned to his desk after an absence of three weeks, which time was spent in touring Florida with his family, in celebration of the safe return of his two sons—one from the army and the other from the navy.

Gustaf Larson, the inventor of larsite, the new puffed brick, was in San Francisco last week, during which time he visited the Oakland shipyards where the ships of larsite are in course of construction. Mr. Larson has recently perfected a kiln in which it is said that larsite can be burned much more economically.

H. H. Cowell, manager of the Hydraulic Press Brick Co.'s Cleveland branch office, was a recent business visitor in Columbus, calling on manufacturers and jobbers. He reports some improvement in general building conditions during the past few weeks. Mr. Cowell recently assumed the managership of the Cleveland Branch, succeeding Mr. F. H. Chapin.

Lieutenant R. L. Queisser, Jr., of the R. L. Queisser Co., Scofield Building, Cleveland, Ohio, is expected home within a short time, and will assume charge of the brick department of that company, according to R. L. Queisser, head of the firm. Lieutenant Queisser has been in military service since before this country entered the world war. He was for nine months stationed on the Mexican border.

Robert C. Mitchell, one of the best known brick men in the Middle West, originator of "Buy Farr The Best" and a score of other big business-pulling stunts for the brick business, is back in the game again. Mr. Mitchell has joined the Cuyahoga Builders' Supply Co., Cleveland, Ohio, to manage the brick and clay products departments of that concern.

H. F. Kemper, well known brick man of Ohio, has been appointed general manager of the American Face Brick Co., The Arcade, Cleveland, Ohio. Mr. Kemper has been identified with the industry for several years, and soon is expected to have things humming at the American. John Harms, formerly manager of the American Face Brick Co., has resigned to engage in other business, details of which he will be prepared to announce later.

John J. Bishop, formerly with the Memphis Brick Sup-

poly Co., Goodwyn Institute, Memphis, Tenn., has become business manager of the Empire Motor Car Co., retiring from his former connection. The Memphis Brick Supply Co. reports the outlook good in Memphis for building and considerable out of town inquiry for brick and terra cotta product. They represent several of the best known fancy brick and terra cotta concerns and show extensive samples on their floor.

Ralph H. Coney, secretary of the Moores-Coney Co., Cincinnati, Ohio, building material and brick dealers, died some days ago after an illness of two days from pneumonia, at Carlet Oaks Sanatorium. He was 49 years of age and had been connected with the Moores-Coney Co. since its organization, more than fifteen years ago. He was a member of the Business Men's Club, a director of the Chamber of Commerce, and a former director of the Cincinnati Automobile Club.

J. Spotts McDowell, research department, Harbison-Walker Refractories Co., Pittsburgh, Pa., presented an interesting paper, "Basic Refractories for Open-Hearth" at the recent meeting of the American Institute of Mining Engineers, held in New York. The paper was prepared by Mr. McDowell in cooperation with R. M. Howe, fellow, Mellon Institute, Pittsburgh, and covered a discussion of tests of chromitic materials and low-lime and high-lime magnesite, as well as a comparison of magnesite and dolomite.

George Knowles, Sr., aged 89 years, pioneer pottery manufacturer and for over a quarter of a century an English clay importer, died at his home in East Liverpool, Ohio, March 9, of the infirmities of old age. Mr. Knowles was born in England and came to the United States May 12, 1864. For 21 years he was manager of the Millington-Astbury Pottery Co., of Trenton, N. J. Leaving that company he formed and built the plant of the Enterprise Pottery in Trenton. In later years he retired from the pottery manufacturing business and began the importation of foreign clays, he being the first to enter this line of business. His first offering was the Devonshire ball clays. He removed to East Liverpool 25 years ago, and then formed the George Knowles & Sons Co., clay importers.

California

A bulletin called "Manganese and Chromium in California" has been issued by the California State Mining Bureau, to be sold by the bureau.

A. W. Larsen has been awarded the contract for the Red Cross Hospital to be built at the San Francisco Presidio. It is understood that the entire construction will be of hollow tile.

Some improvement in the clay products situation in California has been noticed in the past two weeks. More work is coming thru the contractors' hands and there is evidence of a considerable amount of new jobs, now under consideration in the architects' offices.

Building activity on the east side of the bay is going forward nicely at the present time, the building permits for Oakland, Cal., showing almost double the amount of work in February in comparison with the month previous. The building permits have increased to a considerable amount, as have the permits for San Diego.

In line with the expansion policy of the Coast Fire Brick Co. of Richmond, Cal., the firm is spending about \$35,000 remodeling the former plant of the Irwin & Lewis Lumbric Co. near the Pullman shops to take care of the increasing business. The plant is already turning out 2,000 brick

Perforated Steel Screens

Of Every Description

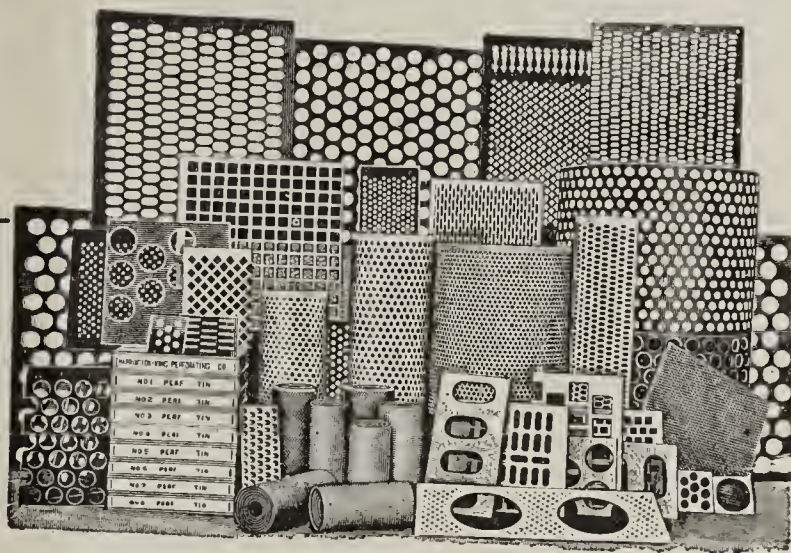
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No Other Screens Will Give You Equal Capacity,
Durability and Satisfaction

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Speed & No. 1 Ware

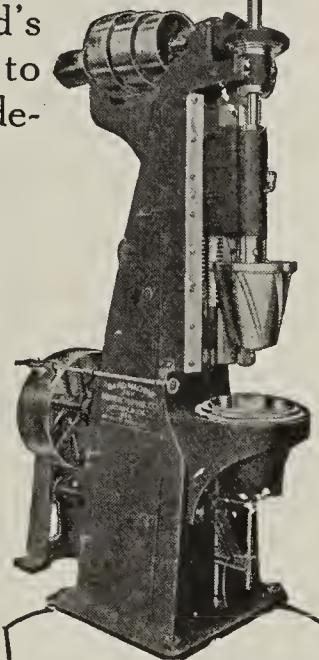
The popularity of Baird's Pottery Machines is due to their speed, simplicity of design, plus No. 1 ware.

The mould or head-piece of these machines always remains free from adhering clay. With the help of an ordinary workman, one of these machines will speed up production on easy selling ware, and increase your profits.

Send us a sample of your clay at once, and learn the possibilities of these machines. You will be surprised with the results. Write to-day to

Baird Machine & Mfg. Co.

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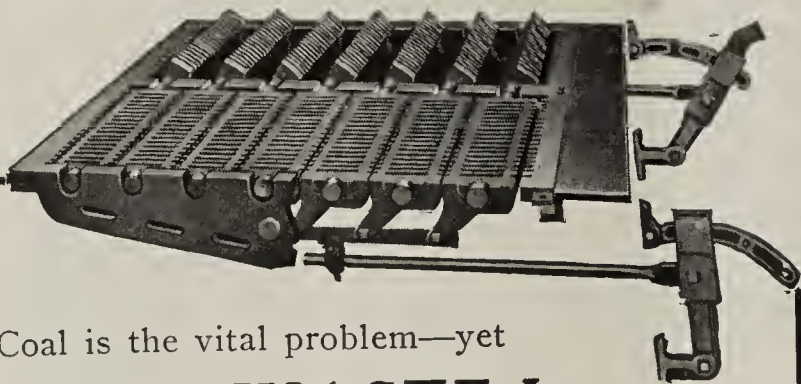
Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO



Coal is the vital problem—yet

You WASTE It

Stop the waste now, by installing the

CANTON
ROCKING and DUMPING GRATE

It SAVES enough in most cases to pay for itself in the first few months' use.
It SAVES because there is no necessity of having the doors open except when charging fuel.
It SAVES because there is no waste or loss of heat when stoking.
It SAVES because there is no waste of fuel while shaking.
It SAVES because it keeps the steam pressure uniform.
It SAVES because that is the business for which it exists.
But—it can SAVE FOR YOU only if it is in use under YOUR boilers.

Write us for the names of satisfied users

THE CANTON GRATE CO.
1706 Woodland Ave., CANTON, OHIO

Southern Representative: W. B. McBurney, M. E.,
Efficiency Engineer, 829 Trust Co. of Ga. Bldg.,
Atlanta, Ga.

per day, but the capacity is to be greatly enlarged, according to the officials of the company.

According to the statement of the "Southwest Builder and Contractor," a Los Angeles publication, common brick is selling lower in that city than in many eastern markets, and it complains that the price of common brick in the southern city is not justified by comparison with prices in other cities in the United States. The current quotation on common brick in Los Angeles is lower than New York, Boston, St. Louis, Kansas City, New Orleans, Dallas, Tex., Cincinnati, or Fresno, Cal., says the local paper.

Illinois

Sixty-five salesmen of the Western Brick Co., Danville, Ill., were in session at their annual convention on March 8, at the Plaza Hotel. At this meeting the salesmen visited the company's plant and became acquainted with the stock for the ensuing year.

Indiana

A handsome new brick church is being erected at Switz City, Ind., and will be ready for dedication early in the spring.

The Bloomfield Brick Co., whose plant at Bloomfield, Ind., was closed shortly after the declaration of war, has reopened and has prospects for a busy season.

Several brick road paving jobs at LaFayette, Ind., which were partially completed last summer, will be finished as soon as the weather will permit, according to reports emanating from that territory.

The city of Portland, Ind., is getting ready to advertise for contracts on about three or four blocks of brick streets and in all probability will improve other streets, for which petitions already are on file. The petitions call for about three miles of brick, it is said.

The outlook for new construction work and public improvements in Frankfort and Clinton Counties, Ind., was never better than at the present time. It is planned to pave several highways, leading from the city, with brick and to build a few other hard surface roads in the adjoining territory. Bonds for one of the brick roads have already been sold and bids for the other two are reported to have been advertised.

One of the most important proposed construction enterprises reported at Crawfordsville, Ind., was announced recently when incorporation papers were filed by the new brick company which will take over the Standard Brick Co. and be known as the Standard Shale Brick Co. This company will have a capital stock of \$5,000,000 and will require considerable construction and building. The proposed new plant, when completed, will employ between 600 and 700 men.

New work in Morgan County, Ind., this year includes two and one-half miles of brick paving on the Dixie Highway, the contract for which has been let to an Indianapolis firm. The work will cost approximately \$85,000, and will extend from the east limits of Martinsville toward Indianapolis. When this stretch is completed automobilists will find several solid miles of brick-paved road along this highway, through and on each side of Martinsville. The brick to be used in this construction will be made in the Martinsville brick plants.

Official statistics covering new building operations in Indianapolis during the month of February are of the most encouraging nature. The record of permits issued during the month shows that 390 permits were taken out for a total

valuation of \$436,645, as compared with 136 permits and a total valuation of \$317,626 for February, 1918. This is an increase of 37 per cent. Altho a large majority of the permits issued in February were for new dwellings, taken out by home builders for their own personal use, quite a number were issued to companies engaged in building homes for speculation.

Iowa

The announcement by the Des Moines City council and engineers that sewer work to cost in the neighborhood of \$400,000 will be done this year is another encouraging sign for the local plants.

The Crystal Spring Clay Products Co., Kimballton, Ia., expects this year to do the biggest business ever done in any single year. The company is carrying considerable advertising space in the newspapers, telling prospective customers what it has to offer.

Nearly all the plants in the Des Moines, Iowa, district have resumed operations during the past month after an enforced layoff of from four to six months. Among the plants which have started operations are the Capital Clay Co., Flint Brick Co., Goodwin Tile & Brick Co. and the Redfield Clay Products Co., of Redfield.

Business conditions among the manufacturers of the Des Moines, Iowa, district are such as to give the most optimistic tone to the trade that has existed in many months. The restricted conditions of 1918 tended to cut down farm construction fully half last year and many of the producers are expecting an unusual demand this year to take care of this deficit. There is a very heavy demand for hollow tile silos due to the consistent advertising efforts of the manufacturers and to the satisfaction which the use of this type of construction has created. Close students of this particular construction anticipate that during 1919 the construction of hollow tile silos will surpass by at least fifty per cent. any previous year's construction.

Kentucky

The demand for drain tile in Kentucky is very heavy, with practically all manufacturers of drain tile in this section completely sold up on all 1919 production. Farmers are today the best buyers of building material in the state.

Building permits in Louisville, Ky., are showing considerable improvement according to W. E. Glossop, city building inspector, who recently reported a big day, with twelve building permits; twenty-four electrical permits; and thirty-eight plumbing permits.

There has been practically no change in the general situation in Louisville, Ky., during the past two weeks, altho indications for spring building are somewhat better than they have been. A number of plants are down, and while planning to start operations at an early date, are delaying actual starting until present stocks are cleaned up, and a more active demand opens.

A few weeks ago at a meeting of the Kentucky Clay Products Association in Louisville, Ky., it was intimated that rentals would have to increase in order to encourage construction of rental property. Rentals have increased twenty-five to thirty per cent. within the past few weeks on considerable residence property, with the result that the needed stimulus is at hand.

A. P. McDonald, sales manager for the P. Bannon Pipe Co., Louisville, Ky., reports that both of the company's

WATERBURY

ARMORED ROPE



Wherever you would expect abrasion to make short work of your ropes, there is just where Waterbury Armored Rope (Gore Patent) demonstrates its unusual durability—and the high quality that is in every Waterbury rope.

The flat wire served about each strand, takes the wear that would otherwise quickly put bare rope out of commission, and makes Waterbury Armored Rope give two or three times as long service, under seemingly impossible conditions. The convex edges of the armor wire prevent its binding and offer no restriction to the usual flexibility of the rope.

A 220 page cloth bound Rope Manual covering all kinds of rope—Fibre, Wire, Fibreclad Wire, and Armored Wire—will be mailed free upon request.

WATERBURY COMPANY

63 PARK ROW, NEW YORK

Chicago, 1315-1321 W. Congress St.
San Francisco, 151-161 Main Street.
Dallas, Texas, A. T. Powell & Company.
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2297-W

Increase Sales with Good Looking Ware

Other industries have called in the aid of science to improve the quality and the appearance of their products.

ROLLIN'S BARIUM CARBONATE improves the appearance of clay products by eliminating scum, thereby giving you a more attractive and easier selling piece of ware.

Add ROLLIN'S at the pug mill, or in the dry pan, and it will render insoluble and harmless the scum-producing sulphates that are in your clay.

In sewer pipe clays it makes the salt glaze stick.

Well known concerns, such as U. S. Roofing Tile Co., Coral Ridge Clay Products Co., Sapulpa Pressed Brick Co., Coffeyville Vitrified Brick & Tile Co., and many others, are using it.

ROLLIN CHEMICAL CO.

(INC.)

Charleston, W. Va.

Jenkins Valves

Experienced Hands Demand the Jenkins "Diamond Mark"—

The Jenkins "Diamond," the distinguishing mark of unvarying service is on the body of all Jenkins Valves—Brass, Iron and and Cast Steel.

These include types and sizes to meet all requirements; Globe, Angle, Cross, Check, Combination Stop and Check, Blow Off, Whistle and Gate Valves in stationary or traveling spindle patterns.

JENKINS BROS.

New York Philadelphia
Boston Chicago
Jenkins Bros., Limited,
Montreal London, E. C.



plants are running full, but that he can't say how long they will be able to operate on this basis unless conditions improve. However, he is very optimistic, and reports that the sewer pipe plant will be busy for some time yet in making deliveries on Camp Knox.

It is claimed that with the return of normal conditions in the building trades in Kentucky, there will be a larger percentage of hollow tile lined brick veneer dwellings than at any previous time. Altho hollow tile has been largely used in apartment house construction, it hasn't gotten a really good start in small residence building as yet. However, the difference in insurance rates, and the better class of construction will appeal to builders in the future, especially with lumber prices as high as they now are.

Maryland

As regards current brick prices, a recent comment of one of the officials of the Baltimore (Md.) Brick Co., is interesting. In this it is pointed out that costs of production have increased steadily and that manufacturers cannot reduce prices and exist. There may be some adjustment in prices now or later, but figures cannot go back to pre-war levels. Moreover, brick manufacturers have not made money thru the war period and are not in position to contribute anything in the way of price reductions to encourage construction. This company is now operating its plant at about one-half of normal capacity.

Massachusetts

Announcement of the preparation of plans for several office buildings and other similar structures in Boston will mean the placing of several good sized orders during the next few weeks and there is some interest in just where these orders will go.

Brick manufacturers of Massachusetts report a slightly better market, altho the building awakening which all optimists see in the offing is still not definitely in sight. The labor situation is giving the manufacturers less concern than it did last year altho there is every prospect of continued high wages and a possibility that the demand for brick yard help may exceed the supply.

Mayor Andrew J. Peters, of Boston, Mass., has asked the city council for an appropriation of one million dollars for sewer construction work during the current year, and \$800,000 for road construction. In his message the mayor urged immediate action on the bills and asked that the work be started as soon as the money was available "to the end that the period of reconstruction and readjustment industrially be made as easy as possible for both capital and labor." The funds for both the sewer work and the street work will be provided thru bond issues.

Missouri

Henry D. Grady, treasurer of the St. Louis (Mo.) Terra Cotta Co., reports that his company is doing a satisfactory business and that he expects the market to liven up in the near future. Officials of the company are preparing for business on a normal basis by the first of July, he says.

The Laclede-Christy Clay Products Co. is one of the first firms to take advantage of the low river freight rates in shipping their products to the southern market. The company has 150 tons of brick en route to Colon, Panama, via the water route. The consignment left St. Louis on board one of the barges operated by the Federal Government.

Practically all St. Louis, Mo., clay products manufacturers still are employing horses and wagons for hauling, accord-

Are you looking

for some way to relieve you of your sales worries? If so, advertise your ware—Building Brick, Building and Drain Tile, Sewer Pipe, Fire Brick, Terra Cotta, etc.—in

BUILDING SUPPLY NEWS

Advertising rates and sample copies cheerfully sent on request. Write today.

*The only Dealer
paper in the
Building Field.*

*Endorsed by
National and
State Associa-
tions of Dealers*

Building Supply News
610 Federal Street Chicago

BUILDING SUPPLY NEWS issues a current price list of your commodities in 73 cities thruout the U. S.

ing to Walter Pocock, secretary of the Brick Manufacturers' Association. Several manufacturers have expressed their intention of using motor trucks as soon as business has been re-established.

The Laclede-Christy Clay Products Co., St. Louis, Mo., recently held a very successful Sales and Administrative convention at which all representatives of the company were in attendance. Pride and enthusiasm were the keynote of the meetings—every man proud of the products he sold and enthusiastic to carry their story to every corner of the land.

Any change in the prices of clay products within the near future is almost entirely dependent upon the cost of labor, Henry D. Grady, treasurer of the St. Louis (Mo.) Terra Cotta Co., declares. With the great majority of the workers now idle and no decrease in their wage scales likely when the business resumes its normal proportion, Mr. Grady says that he sees no chance for a lowering of the prices on products.

Brick manufacturers are looking for an early opening of the building trade, according to officials of the St. Louis Brick Manufacturers' Association. Walter Pocock, secretary. Several conferences of the manufacturers have been held in the past few weeks to outline policies for the boom which they anticipate. There is little probability of any price changes of brick and tile in the near future, the manufacturers declare.

A large number of clay mines in the vicinity of St. Louis Mo., which have been idle during the past several months, will be reopened within the next sixty days, according to officials of the Grand View Fire Clay Mines. The market for clay products is resuming its normal state, they say, and the limited supply of surplus stocks now in the hands of the dealers soon will be exhausted, making the manufacture of other products imperative.

Harry C. Kennedy, representative of the Interstate Clay Products Co., St. Louis, Mo., is one of the most optimistic members of the business here. Mr. Kennedy says that he has been given positive assurance by several architects that the building industry in St. Louis is due for a good boom in the very near future and says that it will be but a short time until the manufacturers and dealers here will find their businesses taking on a more prosperous front. Mr. Kennedy reports that three large industrial plants will be built in St. Louis in the next few months.

The increasing number of building permits being issued in St. Louis, Mo., is indicative of an early opening of the building activities which have been comparatively quiet since the short boom which followed soon after the signing of the armistice. It is especially interesting to the local brick men to note that the usual list of frame permits which has practically monopolized the building permit records in recent months now has given way to an overwhelming majority of brick permits. The fact that building is on the upgrade is the opinion expressed by the local trade in general.

The St. Louis Chamber of Commerce has appealed to local clay products manufacturers to take advantage of the freight rates offered by the barge lines now being operated by the Federal Government on the Mississippi River. These rates, the chamber declares, are cheaper than can be had from rail lines and would mean a considerable saving to the shippers. It is also asked that the shippers make use of the river facilities as a measure of encouragement to the barge lines for fear that a lack of patronage would bring about their discontinuance as was the case of the old river packet

SELF LOADING ELECTRIC INDUSTRIAL TRUCKS

Electric Brick Barrow

Can you guarantee maximum capacity for your plant next season?
Are you providing modern equipment to attract desirable labor?

Electric Self-Loading trucks are proving an unqualified success lightening labor and reducing trucking expense handling brick, clay or fuel.

One man on an Elwell-Parker special Electric Brick Barrow performs with little effort the work of six to ten hand wheelers. He delivers a 4,000 pound load in half the time.

The Elwell-Parker Electric Co.
"Pioneer Builder of Electric Industrial Trucks"
Cleveland, Ohio

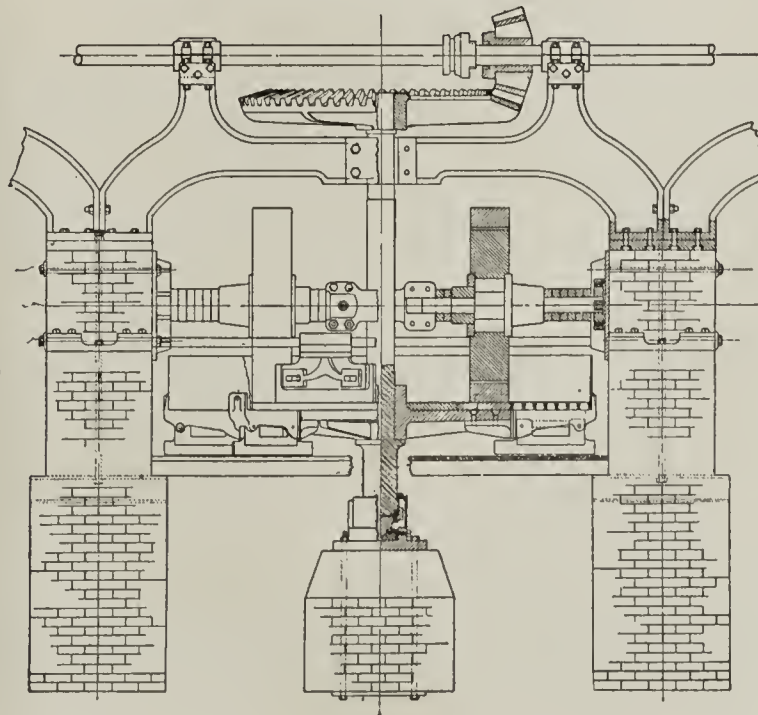


The "MEANS" 9 Ft. Dry Pan

is being chosen for the reduction of clay and shale by successful claymen because careful comparison with other makes, and records of their performance, show the "Means" to be the best. Special features are the improved step and toe, and adjustable bearings.

In addition to dry pans we manufacture all equipment required in sewer pipe and tile plants, and our special goose-neck attachment for the sewer-pipe press affords a means of making brick directly from the press. Write us.

The Toronto Foundry & Machine Co., Inc.
Toronto, Ohio





In 1918 Production Was the Question of the Day—in 1919 Distribution Is the Problem of the Day

TO meet the unusual demands now being made on the motor trucks in the Brick and Clay industry, it was necessary for Kissel to arrive at the proper combination of moving and fixed units, together with structural and mechanical features, tested and counter-tested through eleven years' experience in motor truck designing and construction.

Result—Well balanced power transmission from motor to rear tires—good performance on levels and grades and a low fuel consumption.

Every Kissel Truck dealer is virtually a transportation expert. Every business house in his territory with transportation problems to solve is a logical and nine times out of ten an ultimate Kissel owner.

THIS ABILITY TO PROPERLY SELECT AND COMBINE THE GOVERNING FACTORS IN DESIGN HAS BEEN APPLIED TO THE ENTIRE LINE OF KISSEL TRUCK MODELS. SPECIFICATIONS AND 1919 CATALOGUE MAY BE HAD AT THE NEAREST KISSEL TRUCK HEADQUARTERS OR DIRECT FROM THE FACTORY.

KISSEL MOTOR CAR CO., Hartford, Wis., U. S. A.



lines. Several St. Louis manufacturers already have turned large shipments over to the barge lines and have declared them highly satisfactory.

F. G. Boyd, secretary of the Building Industries Association of St. Louis, says that if for no other reason, he can see no drop in the prices of brick and other building materials because the various labor organizations are constantly asking for increased wage scales. As a testimonial, Mr. Boyd produced a long list of the most recent applicants for the higher wage rates. No less than a dozen of these organizations, he said, had already been dealt with and their demands met without a murmur from the employers who are hopeful of retaining their competent employees until the expected boom of activities has materialized.

The Building Industries Association, of St. Louis, Mo., including manufacturers and dealers in brick, tile and other clay products, has requested local architects to report all building projects which they now have before them that the association may compile statistics to show that the building business here will reopen in full force before the summer months are far gone. The association is fostering a campaign of press and propaganda publicity to show that building costs are now as low as they will be at any time within the visible future. Thru this campaign it is believed that prospective builders will be encouraged to go ahead with their projects and not delay them in the belief that the bottom will drop out from under the present market prices soon.

Representatives of seventeen different organizations affiliated with the building industries in St. Louis, Mo., including a large delegation of clay products manufacturers and dealers, met in conference in the headquarters of the Building Industries Association to consider steps toward the lowering of building costs. After much discussion the conferees agreed that the costs of materials is dependent upon the costs of labor, fuel and freight, all of which they found to be beyond their control. Brick manufacturers testified that 90 per cent. of the cost of their product is governed by the price of labor. They produced statistics to show that certain freight rates have advanced 300 per cent. while the cost of labor and fuel has been constantly increasing. They declared that the prices of their products have advanced less than 100 per cent. in the same period of time.

New Jersey

A few days more will see the resumption of brick manufacturing activities in the Hackensack district and according to the general comments of producers in this section, the season's run will be close to normal if the indicated revival of construction work as now so "plainly in the air" is actually demonstrated by the demand for material. The yards in this district have not been entirely idle during the winter season, and are in fine condition to go ahead with production with the advent of spring. Similar conditions are manifested at Trenton, and the various plants in this vicinity are well prepared to inaugurate activities for the season; these yards for the most part adhere to outdoor drying, and naturally must be assured of weather conditions before actual work is commenced. The season's run in this section should reach a good figure if present views and intimations can be taken as a guide.

The indicated resumption in construction work is of primary import to the many ceramic plants in the Raritan River section. With the building of homes, apartments and other structures will come the demand for floor and wall tile, sanitary porcelain ware and other standard

burned clay products, while with the erection of buildings requiring ornamental work will come orders for the fine mosaic and faience specialties, a prominent part of production of several plants in this vicinity. A matter of particular interest to those in the clay working industry in Middlesex County, is the signing of the \$33,000,000 Rivers and Harbors Appropriation Bill by President Wilson; this bill makes possible a fund of \$800,000 for improvements to the Raritan River, a waterway of considerable importance to the manufacturers at Perth Amboy and adjoining sections.

A new organization has been formed at Trenton, N. J., to specialize in brick and burned clay building specialties, headed by Wilson A. Philips, who recently resumed operations in this city after a connection with the Government for some months past. The organization, incorporated under New Jersey laws, with capital of \$25,000 will be known as the Philips-Harper Co., the incorporators, in addition to Mr. Philips, being: Frank W. Harper, and Charles DeF. Besore. Offices will be in the American Mechanic Bank Building. The company will operate the plant of the American Hollow Tile Co., Hightstown, N. J., planned by Mr. Philips in acting individually as announced in the March 11 issue of *Brick and Clay Record*. This plant has been leased, and will be used for the production of hollow tile, building blocks, and various fireproofing specialties. The company is also arranging to handle the production of several important concerns, with materials including terra cotta, face brick, common brick, paving brick and enamel brick, as well as sewer pipe, rain tile, etc. Plans have also been perfected for close cooperation with contractors and builders in this vicinity, giving them every possible assistance in the selection of the right materials for the particular service intended.

New York

Brayton's, Inc., Buffalo, N. Y., has been incorporated with a capital of \$80,000, to manufacture pottery and deal in china and other specialties. F. R. Brown, C. F. Ladd and E. Hagmeir, Buffalo, are the incorporators.

The New York Architectural Terra Cotta Co., Long Island City, New York, with works on Vernon Avenue, has increased its capital from \$500,000 to \$800,000, for proposed expansion in general activities during the coming season.

The State Legislature, New York, is considering a bill introduced by Assemblyman Patrzykowski, amending the present labor law so as to make necessary the fireproofing of all windows in factory buildings where such windows are within fifty feet in a direct line of another building.

The Troy (N. Y.) Brick Works, which has been closed down for some time past, resumed operations on March 1. Gilbert P. Williams, president and manager of the company, stated that they would probably employ forty hands and hoped to operate continuously from now on. Owing to government restrictions last year the plant was closed down the first of July and has not been in operation since.

The brick market at New York holds little of interest; there is no predominating feature, nor anything of importance to report. Prices hold firm at \$15 per thousand for good, hard common in wholesale lots at the dock. There have been no arrivals from up the river, and no shipments of any account are looked for during the next few weeks. Even tho there might have been desire to



the never-slip — never slack — original stitched cotton duck belt.

You can gauge my calibre from my "references."

(Names on request)

"Pulled a plant 27 years and still running."

"Running two main drives for 14 years—another for 20 years—same plant."

"On the job continuously for 20 years and still doing good work."

"Giving service that can't be obtained from leather."

"Excellent service on the hardest drives known"—etc. etc.

Power or Conveyor — I'm made in a size and ply to fill all jobs—and get all the pull from the pulley.

Send the word to Mill Supply House or Home Plant direct—and I'll report for duty promptly.

"On-the-Job" *Gandy*

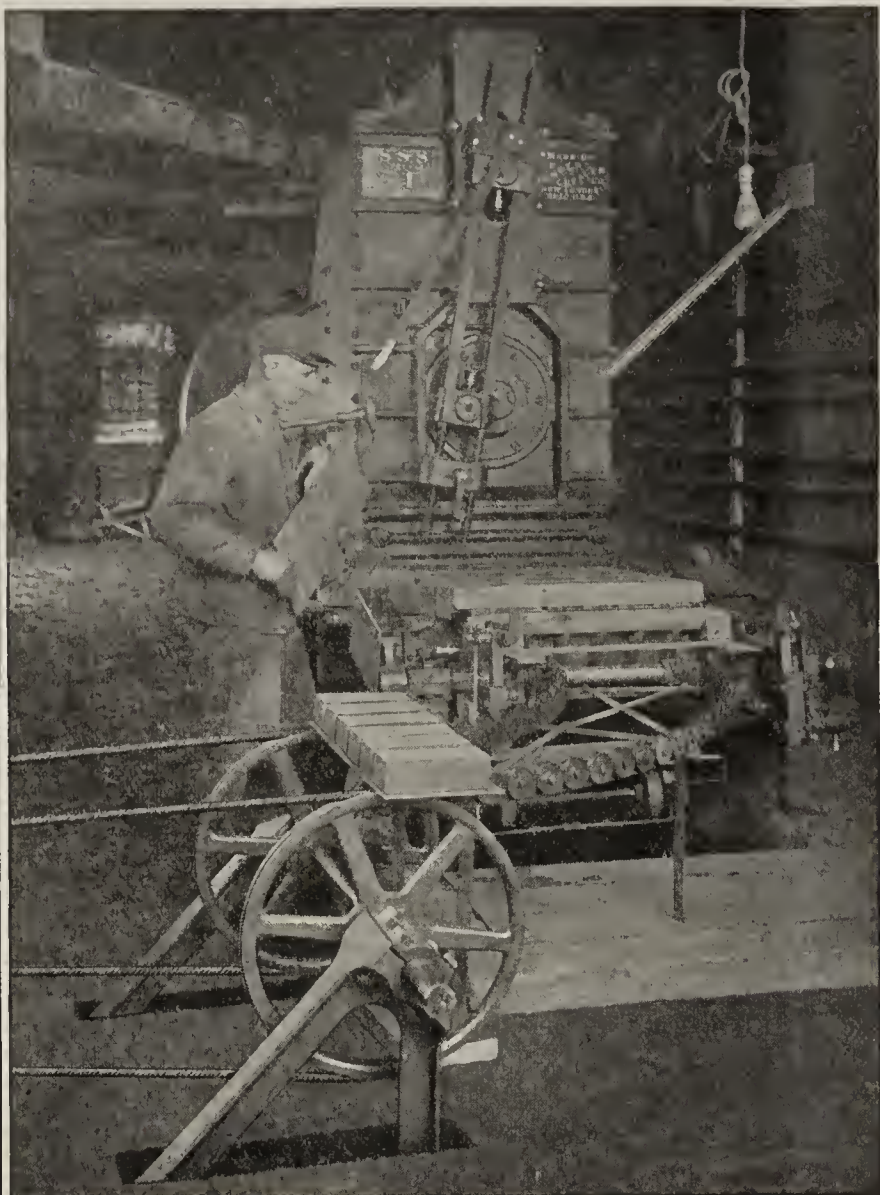
The Gandy Belting Co.

732 W. Pratt Street Baltimore, Md.

New York Branch: 60 Warren Street



"The S S S Special" Automatic Soft Mud Brick Machine



The "S S S Special" is the ONLY Automatic Soft Mud Brick Machine. It is Brick Machine, Bumper, Dumper, and Sander, all combined in one Great Machine.

**It Saves Labor and
Improves Your Product**

The "S S S Special" means
Improvement Advancement Progress

The Arnold-Creager Co.
New London, Ohio

bring more brick into the market early in March, the harbor strike annulled the possibility of any arrivals. This strike has now been tentatively settled, and it is fortunate that it did not occur during a busy season. The demand for face brick has quickened a little, owing to the number of new projects now in contemplation. Prices continue at the same levels, varying from \$25 per thousand for Colonial brick to \$45 per thousand for smooth and rough gray. Buff brick is bringing around \$43 per thousand, and red shades, \$37. Interior hollow tile is quoted at slightly over \$63 per thousand square feet for smallest size, to \$153 per thousand for 6x12x12 inches. Thru the entire range of standard building commodities there is little price fluctuation, and present levels seem destined to hold for the next few months, at least.

Constant increasing activity is being evidenced in construction fields at New York and adjoining boroughs. Each day is bringing an improvement in the situation, and there is a decided change in the attitude of those who have been rather pessimistic in the past. Numerous contracts have been let since the beginning of March for important projects requiring face, common, and ornamental brick, as well as large quantities of other standard building materials. Inquiries for price quotations are being received in good number, and there seems to be no question whatever but that things are once more "on the way." The outlook is decidedly bright at Brooklyn and Queens for the construction of a large volume of dwellings and apartments during the coming season; housing accommodations are in great demand and many sites are being sold for new homes. School buildings and other institutions also bid fair to occupy a large share of attention, and these will require brick in vast quantities. In passing, it is interesting to note that in the northern part of the state, at Buffalo, great activity is also planned in this same work, an appropriation of \$8,000,000 for school buildings having been arranged.

Ohio

Plans for a \$125,000 brick school building to be erected by the Board of Education at West Unity, Williams County, Ohio, have been completed and bids for the work will be opened March 26.

Bids will be opened March 28 by the Ohio Highway Commission for a score of road improvements in Ohio, many of which contemplate the use of paving brick. Three jobs in Wayne County provide for the use of monolithic brick.

In the letting of contracts by the Ohio Highway Department recently, John Hennessey, of Piqua, Ohio, was given the contract for paving with brick, a section of the Eaton-Middletown road in Butler County, at \$35,490.51.

Building prospects in Cincinnati are improving and the situation now offers a more pleasing aspect. There have been some large contracts let, and these together with the lesser buildings that are to be erected, makes the industry very much better than it has been for a long time.

It is reported that the new shale crushing plant of the Peebles Paving Brick Co., Portsmouth, Ohio, will soon be placed in operation, as it is receiving its finishing touches. When completed, shale will be crushed at the hillside instead of hauling it to the plant.

The former building of the local gas company at Front and Long streets, Columbus, Ohio, has been remodeled and is now occupied by the Columbus Builders' Supply Co., of which William F. Kern is president. In the display room

is a novel feature showing the brick-in-face brick of interior walls of a dwelling.

The report of the American Sewer Pipe Co., of Akron, Ohio, shows net earnings for 1918 of \$171,085. Dividends paid were \$140,000, leaving a surplus for the year of \$31,085. The balance sheet shows current assets of \$2,083,292 and current liabilities of \$586,784. Clay lands and equipment are carried at a valuation of \$9,812,134, and reserve for depreciation at \$1,358,484. Capital stock outstanding is \$7,000,000 and net bonded debt \$1,234,000.

Pennsylvania

Irwin F. Impink, of Reading, Pa., purchased on private terms, the Moyer brick plant at West Reading, Pa., from the estate of the late J. Harry Moyer, of Reading. This plant was operated by the late Mr. Moyer and before him, by his father, for upwards of 28 years. Mr. Impink will operate the plant in the near future.

It is reported that the works of the Wilkes-Barre & Hazleton Brick Co., along the road between Hazleton, Pa., and Beaver Brook, were disposed of on March 8 on an execution of the South Side Bank of Wilkes-Barre, to R. H. McCullom, of Wilkes-Barre. The Hazleton and Wilkes-Barre capitalists formerly interested in the plant will continue its operation after reorganizing the company. The plant is one of the most modernly equipped in that part of the country and its financial difficulties were due entirely to wartime conditions.

Philadelphia seems a trifle slower in taking on a resumption of building activities as compared with other eastern centers. Numerous projects are known to be in contemplation in the city and are expected to develop to a definite point at an early date. In the meantime, other sections of the state are going ahead and calls are being made on local brick and building material supply concerns for supplies for these operations. A number of contracts, altho comparatively small as regards money outlay, have been awarded for brick dwellings to be located in the city, and these are but a forerunner of the extensive work planned in housing during the coming season. During the month of February, plans were filed for 39 brick buildings of this type, comprising two and three-story structures, with total valuation aggregating \$231,800. The total building permits in this month totaled \$1,140,865, an increase of \$456,360 over the previous month, and \$549,000 more than the corresponding month of last year. This is encouraging, showing that things are coming along in building circles in the right way.

Tennessee

The South Memphis (Tenn.) Brick Co., is inactive at the present time, but it is intimated that under a new management it may resume in the not remote future.

H. E. Permer, at Nashville, Tenn., in connection with building supplies is featuring a line of tile work for mantels, wainscoting and decorations. His place is on Deaderick Street and is one of the established and active concerns of the Capital City.

The W. G. Bush Co., Fulcher Brick Co., E. T. Lewis & Co., T. L. Herbert & Sons, the Nashville Builders' Supply Co., and C. M. Hughes, all Nashville (Tenn.) active brick and material supply people, are showing a wide range of brick for spring building and the last mentioned concern is also active along sewer pipe lines.

March finds the clay and pottery industries in Tennessee active. The labor situation is improving.



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TRADE SAWYER MARK

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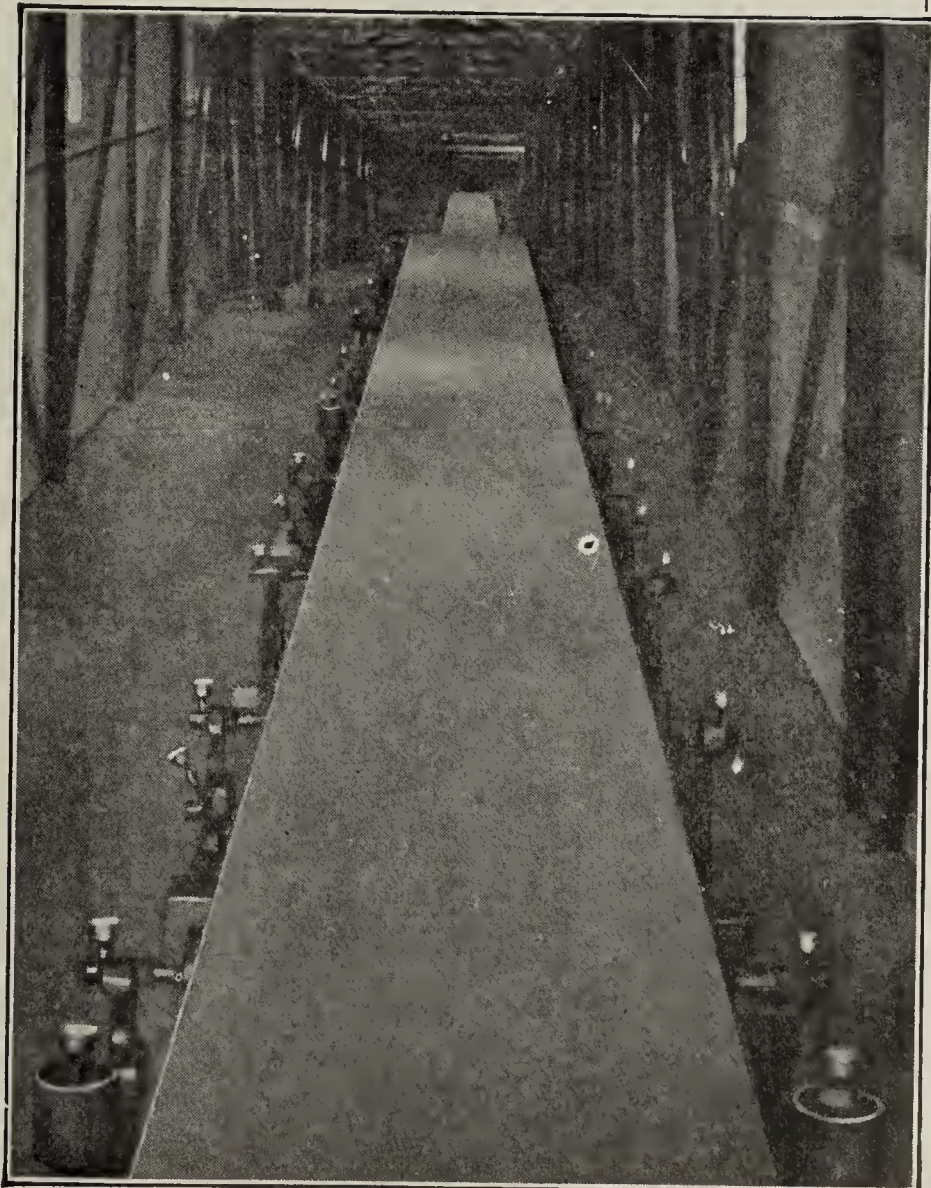
Where the service is hardest in your Brick Plant.

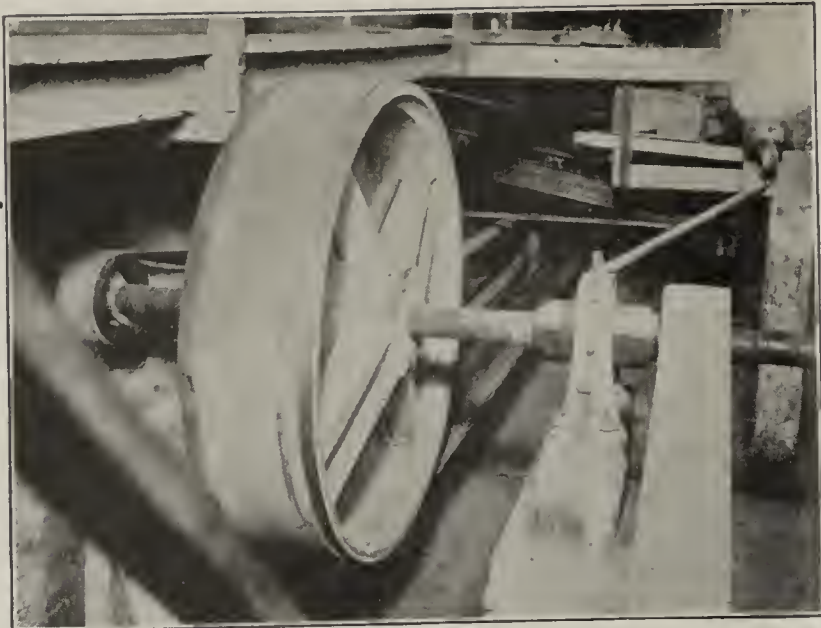
This stitched canvas belting more than meets the modern brickman's demand for efficient transmission, conveyor and elevator service.

It is backed by 30 years of experience in Brick and Clay Plants.

Specify SAWYER.

United States Rubber Company
MECHANICAL GOODS DIVISION





Stanley Economy

Economy in belting means delivering the most power for a long period at low cost.

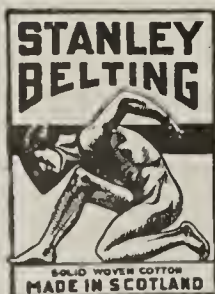
Stanley Belting in Brick and Tile plants is known for its uniformity and flexibility, long life, and freedom from stretch or repairs. Stanley uniformity and flexibility mean steady drive, less slippage, and more power transmitted with less tension. Its long life is due to its special construction.

Stanley Belting Solid Woven Cotton

has no plies or laps to come apart, and no stitching to break or wear through. After the first cut, Stanley is guaranteed not to stretch.

Measure your belting cost by the service it gives you in the long run. Remember, one serious delay caused by defective belting would more than pay for the best. You can buy belting cheaper in first cost, but you cannot get better belting than Stanley. It withstands heat, oil and acids better than leather or rubber.

Write us now for information and prices.



**Stanley Belting
Corporation**

32-40 South Clinton Street
Chicago, Ill.

*For Transmission, Elevating and
Conveying*

MACHINERY *and* EQUIPMENT

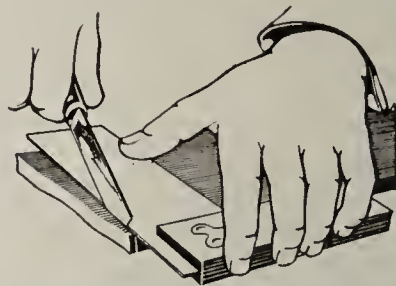
Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Crescent Belt Fasteners

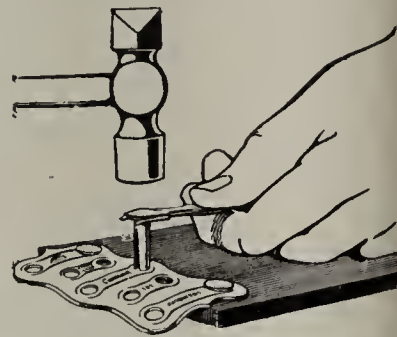
One of the most important lessons industrial America has learned from the war is that we must conserve our industrial man power and keep our workers continually productive. We must eliminate all hazards which even temporarily impede the efficiency of the worker.

Every practical shop man knows the delays, the production losses and the high cost of stoppages caused by breaking belt joints, to say nothing of the inconvenience and difficulty of repair and the damage to the belt.

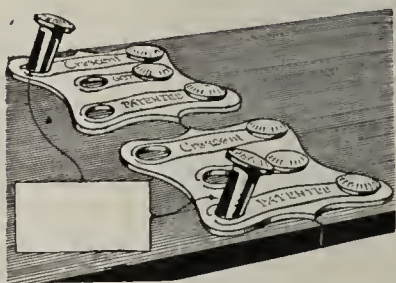
The Crescent Belt Fastener Company have just issued a new bulletin covering "The Crescent Principle of Belt Joining," which summarizes in short, compact phrases the reasons why many of the largest industrial plants in the country are standardizing Crescent Belt Fasteners thruout.



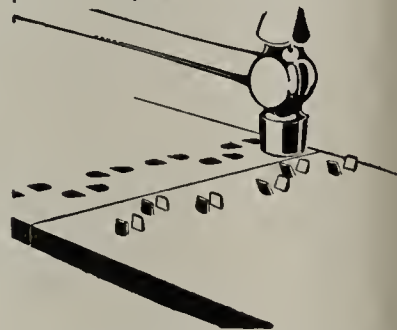
First, see that both ends of the belt are cut square and true.



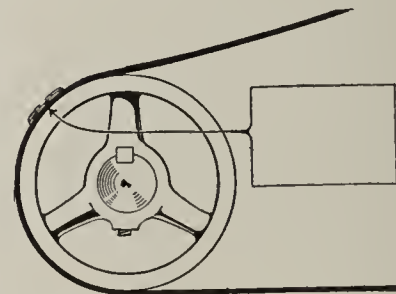
Select the right size Crescent Plates and Rivets, and place in position shown.



When the Crescent Plates have been attached to one end of the belt, bring up the other end and butt the two ends snugly together.



After inserting the rivets according to directions, turn the joint over and spread the prongs of the rivets across the belt.



Crescent Plates are curved to conform to the pulleys.



Crescent Belt Fasteners can be easily removed with a Crescent Rivet Extractor.

This bulletin also contains a ready reference Service Chart by means of which a superintendent, a belt man, or machinist can instantly determine the correct type of belt fastener to use for any condition of work.

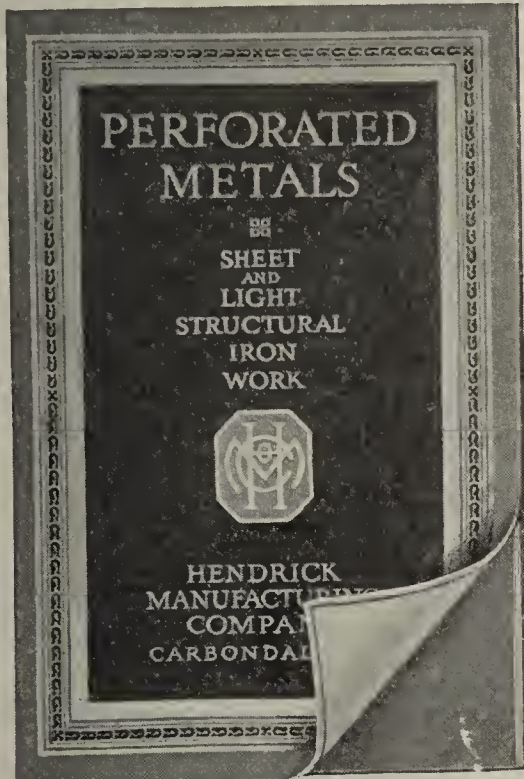
Copies of this bulletin and service chart may be ob-

tained by writing to the Crescent Belt Fastener Company, Service Department, 381 Fourth Avenue, New York. It is a good thing to have tacked up in the tool room.

✕ ✕ ✕

Catalog on Perforated Metal

Hendrick Manufacturing Co., Carbondale, Pa., have issued one of the most extensive catalogs that has ever been brought out covering Perforated Metals. This is more than a mere catalog, and is rightly termed a Book of Reference. It is a publication that every user of this class of material should have handy in his library.



The Hendrick Manufacturing Co.'s Catalog

Hendrick Manufacturing Co. have had an experience of more than 35 years in the manufacture of Perforated Metal, and the company needs no introduction to the clay products manufacturers. They have been appealing to this industry for a period of years, and by reason of the high quality of their ware, and their fair dealing methods they have built up an extensive and profitable business as well as established a large host of business friendships in this field.

Particular attention has been paid to the needs of this industry and the company will gladly mail a copy of this catalog to any clay-products manufacturers who may request it.

✕ ✕ ✕

Plymouth Gasoline Locomotives

The J. D. Fate Co., Plymouth, Ohio, has issued a series of bulletins covering the entire industrial haulage field by classes, and one of these (E Bulletin) relates to the clay-working industry.

The Bulletin shows Plymouths in service in a number of different plants, giving interesting details of their operation, and telling how savings have been made in fuel and labor.

Copy of this Bulletin will be sent on request.

✕ ✕ ✕

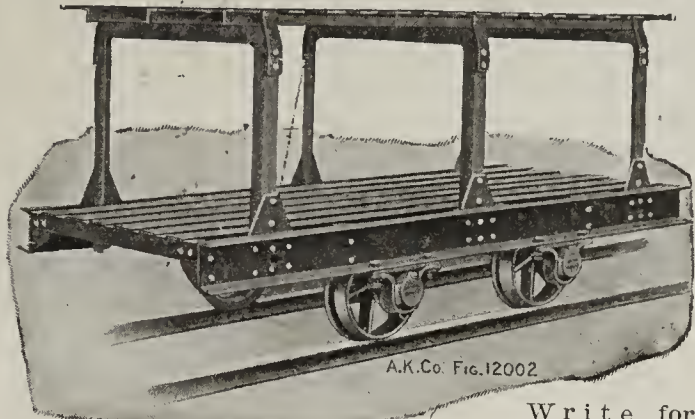
Westinghouse New Annual Catalog

The Westinghouse Electric & Mfg. Co. of East Pittsburgh, Pa., has issued a complete catalog in which all of their electrical supplies are listed. In compiling the catalog every effort was exercised to make it of the greatest convenience to purchasers.

It is made up of 1,264 pages of description pertaining to the products of the company, and a score of other pages contains a complete cross index, and index to style numbers, and a table of "Approximate Cost Multipliers," which enables one to figure the approximate cost of all supplies listed.

Although the book is called a catalog, it contains a vast

PUT KOPPEL ON THE JOB IN YOUR BRICK PLANT



Write for catalogues and prices. Let us help solve your transportation problems.

Dryer and Transfer Cars to haul the brick from cutting machine or press to kiln; V-Shape Dump Cars to transport the shale to shale room; Portable Track for the shale bed. Steel Ties, Rails, Frogs, Switches, Cast Plate Track, Turntables, and

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ELECTROMOBILE
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INDUSTRIAL TRUCK

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Koppel Industrial Car and Equipment Co.

Purchaser of:

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First German enterprise sold by Alien Property Custodian.

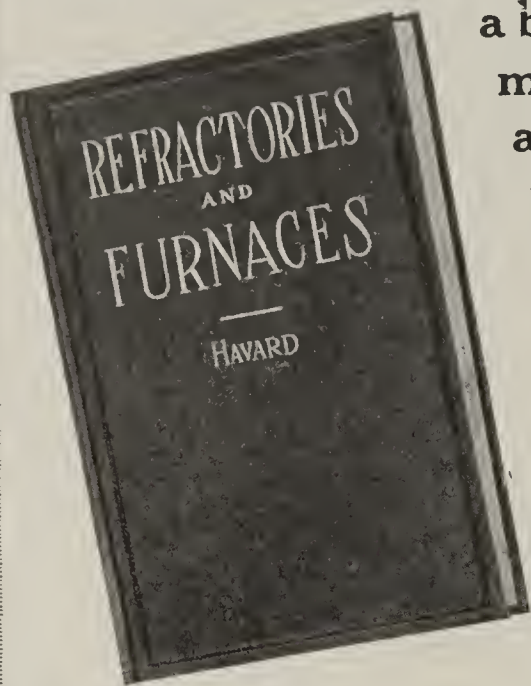
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Southwestern Distributors of the "Electromobile":
THE ELECTROMOBILE COMPANY, St. Louis, Mo.



To the man who wants to know
—who must know— who is de-
termined that *he will know more*



about the
manufacture
and use of
refractories

**WE
OFFER
THIS
BOOK**

Havard's

Refractories and Furnaces

To briefly outline its contents—It clearly describes and illustrates the preparation of silicious refractories, refractory clays, and basic and neutral refractories.

It describes the kind of refractories used, and their application in the manufacture and metallurgy of iron, steel, copper, lead and silver.

It tells about the refractories used in Chemical and Electro-Metallurgical industries. And then it describes the manufacture of refractory hollow ware, heat measurement, mining, and finally the making and burning of common clay brick.

We do not believe that a more valuable book could be purchased, and we are enthused over this idea—it should be in every single clay products plant in the United States, whether you manufacture refractories or non-refractories, you cannot afford to be without it.

Send \$4.00 to

BRICK & CLAY RECORD

BOOK DEPARTMENT

610 Federal St.

Chicago, Ill.

amount of information of a technical and engineering nature. Practical suggestions for the use of many kinds of apparatus for the transmission and utilization of electric power are given.

The publication of this catalog is quite noteworthy as it is the first book of such a nature published by an electrical concern having the wide diversity of products sold by the Westinghouse Company. It is planned to issue this catalog annually.

✻ ✻ ✻

R. H. McElroy

At a recent meeting of the board of directors of the International Clay Machinery Company of Dayton, Ohio, R. H. McElroy was made Vice President and General Manager. This is not only a deserving promotion for Mr. McElroy, but also marks a big step forward for International Clay Machinery Company. It means that even bigger and better things will come out of Dayton backed by International Service than in the past.

For the past 18 months International Clay Machinery Company have been working almost exclusively on war orders. One-half of their plant space was devoted to the manufacture of 75 mm. high explosive shells for the United States government, while the other half of the shop was used in the manufacture of different material for the Emergency Fleet. The contract for shells has been terminated and the work for the Emergency Fleet will probably be completed at the end of March.

This company's main line has been clayworking machinery, dryers and kilns, and they have also been doing a large amount of special work in connection with railroad tunnel kilns which are becoming more and more popular in the industry this season. International Gas Producers have also become exceedingly popular, and the company believes that they have furnished more of this class of equipment for the clay-working industry than all other gas producers combined.

Now that the war is over and the company is going back on a peace basis it is their intention to push clayworking machinery and equipment even more vigorously than in the past, and they already have some new machines going thru their shop which will make a most favorable impression, and be of exceptional interest to clay-products manufacturers everywhere. The gas producer end of the business will also be pushed ahead and especially toward the application of producer gas with International Burners and Producers in connection with up and down draft kilns, as well as with continuous kilns.

The company's field of operations will also be extended, particularly in connection with new types of industrial cars. Their export trade at the present time is quite large, and they are enjoying a very profitable business in several foreign countries, including South America.

Mr. McElroy is so well known to the clay-products industry that he needs no introduction, and his host of friends will wish for him a great measure of success which he is entitled to because of his progressive methods.

✻ ✻ ✻

Morse Chain Co., Ithaca, N. Y., announce that they are advised by P. A. Morse, of the Morse Engineering Co., their western representatives, St. Louis, Mo., that the Kansas City offices have been removed from the old quarters in the R. A. Long Building to more commodious rooms, suite 211-212 Finance Building, where W. V. Warner, the office district manager, will greet their friends.

✻ ✻ ✻

"Lamp Security" is the title of a circular issued by the Flexible Steel Lacing Co., 522 S. Clinton Street, Chicago, which tells how to eliminate lamp loss and breakage by using Flexco-Lok Guards. Not only does the guard prevent breakage, but it also is a protection against theft, as it places the light under a guard of steel that cannot easily be removed, for it is locked over the socket and can be opened only by use of the key. You will be interested in knowing more about this device.

✻ ✻ ✻

Bulletin No. 260, which is free to the trade, has just been issued by Walter A. Zelnicker Supply Co., in St. Louis, Mo.

✻ ✻ ✻

BRICK and CLAY RECORD

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

A Legitimate Item of Manufacturing Expense

A MATTER that came up at the recent annual meeting of the Hollow Building Tile Association in Chicago was the proper handling of expense for association dues. There had been considerable discussion on the contemplated advertising and publicity campaign to promote the use of hollow building tile. The speakers talked in terms of hundreds of thousands of dollars and an assessment of fifteen cents per ton on the shipments of those who signed the association contract. It naturally followed that some would think of the proper disposition to make of so important an item, so it was suggested to the manufacturers present that this extra expense ought to be considered a legitimate item in the cost of manufacture.

"We have our different associations," said a paving brick manufacturer a few months ago, "and to maintain and make them efficient costs money. In the past, we have paid over this money with somewhat of a grudging spirit, feeling that it was an expenditure more or less unnecessary, an expenditure which came out of our profits. The truth of the matter is they are expenditures not coming out of profits but rather an item of cost. They are incurred not with an idea of reducing profits, but making profits possible and are as necessary as the expenditures for fuel and labor.

We heartily agree with this manufacturer. In every other industry where large advertising campaigns are being conducted, the expense is considered a legitimate item of cost. There is no reason whatsoever for our failing to take the same attitude with regard to the manufacture of burned clay products.

* * *

Internal Revenue Figures Indicate Prosperity is General Thruout the Country

THE BUREAU of Internal Revenue now has some figures covering collections of income and excess profits taxes this year. The data indicates returns from this source amounting to more than four billions of dollars, not including the district of Hawaii. Of course, not all of this money is yet in hand, but according to initial payments of twenty-five per cent. the expectations of

Congress for a four billion seven hundred million dollar return will probably be realized.

These figures show a decided increase over those of last year. The largest increase in deposits over the quarter of last year's total is shown in North Dakota and the eight Illinois districts, where there was a two hundred and forty per cent. increase. The third Iowa shows one hundred and eight per cent. increase, and the fourth North Carolina, one hundred and fifty-five per cent. increase; the fifth North Carolina and South Carolina, one hundred and twenty-five per cent. increase.

General prosperity thruout the country, officials point out, is indicated by the returns. The Bureau of Internal Revenue has collected from all sources since July 1, the beginning of the fiscal year, about two and one-quarter billions of revenues.

* * *

Buy Victory Bonds

WITHIN THE NEXT FORTNIGHT the campaign for the sale of the Victory Loan bonds will be launched upon the sea of the American public—a sea which at the present time is not at all the smoothest for such an adventure as the good ship "Victory Loan" proposes to make. America is facing a deficit of \$6,000,000,000. Tho we are not making urgent ammunition or other war requirements which heretofore cost us immense sums of money, we still have a large force of men in France who must be fed, clothed and taken care of; besides, it is costing money to bring back our troops.

The money for these expenditures is essential. It cannot be "printed on the printing press." It must come out of the people's pocket. Here is where you and I come in. It is going to require more selling effort to make this loan a success. It is harder for the people to see the reason for loaning their money to the Government now. The biggest selling point on all previous bonds was patriotism. Now that there is no actual fighting this appeal is not as strong as before. This means that you, who know better by reason of your broader experience and position than the laborer on your plant the necessity of making this loan a big success, must put forth greater efforts to educate your men to seeing the necessity of buying Victory Bonds.

Some of your men have no doubt heard that Liberty bonds are selling at a low value, and for that reason they will fear to put their savings in the new loan. Some are disposing of their Liberty

Bonds of former issues to buy Victory Bonds. This is a very poor practice, and should by all means be discouraged. Many of your men are not properly informed in regard to the need and desirability of purchasing Victory Bonds, and it is up to you to put your shoulder to the wheel and help make this loan successful by boosting it more than you boosted any of the previous issues. Remember it is just as essential, but is going to be harder to get so you will have to "go some." We are infinitely more fortunate than most of the European countries. Let's pay our bills without a murmur.



Cost System a Good Thing for Every Brickmaker

IN WRITING the other day a Wisconsin brick manufacturer said: "If every brickmaker had a cost accounting system, it would be a good thing for all of them," which is simply a homely way of putting a very important truth. It would certainly be exceedingly helpful if every manufacturer of clay products had in operation a cost system that really gave him the information he needed.

Brick and Clay Record has for many years advocated an efficient and adequate cost system for every clay plant in America. We still maintain this position. It has been the source of great satisfaction to look back over the years and to see what wonderful progress has been made toward the realization of our ideal. Nearly every association has in some way or other taken hold of the cost problem. Some have simply talked about it. Others, however, have taken action and have spent good money to work up a uniform system for the manufacturers in the particular branch of the industry interested.

The Refractories Manufacturers' Association has done considerable work on cost accounting. The Institute of Paving Brick Manufacturers also had a uniform cost system compiled. The American Face Brick Association has done as much as any organization to get cost accounting on the right basis in that branch of the industry. In fact, one of the divisions of the association is now clearing costs thru a well known cost accountant.

On another page of this issue appears an article by C. F. Mattes, sales manager of the Decatur Brick Manufacturing Co., Decatur, Ill., entitled, "Simplified System of Counting Cost." Another article will appear in a near future issue entitled, "Cost Accounting as Applied to the Brick Business," by H. W. Conway, of the Barkwill-Farr Co., Cleveland, Ohio.

These contributions will bear careful reading. There is a crying need for more cost information and a better understanding of what a real cost accounting system is.

Educational Advertising

ADVERTISING APPROPRIATIONS are beginning to take on some prominence in clay plant administration expenses. Not all are agreed yet as to the best form of advertising but there is a large number of clay products men who believe that if the average architect and engineer knew more about the strength, beauty, possibilities, as well as the other advantages of clay products, there would be a great deal more of this material listed in their specifications.

J. M. Adams, of the Ironclay Brick Co., Columbus, Ohio, pointed out in a paper read at a brick convention recently that every industry except the clay products industry has compiled complete working details and has placed them in the hands of every architect and engineer in the country, so that with this information the architect or engineer is able to fabricate any kind of construction, knowing positively and definitely just what the material will stand and how it can be used.

If an architect wants to know just how much weight a steel girder of a certain size and length will support, he has only to refer to the tables in the handbook prepared by the manufacturer, where the properties of a beam, rod or rail of almost any size can be found in an instant. But suppose the architect is undecided whether to use a steel column or a brick column, he can ascertain at once from his steel directory just how much weight the steel column will support, but he seeks in vain as far as the brick manufacturer is concerned for the strength of the brick column.

Every engineer and architect is interested in the crushing strength of brick and tile, the elasticity of the wall, the absorption qualities, size, color and texture of the brick or tile. A bulletin just issued by the United States Bureau of Standards on "Tests of Hollow Building Tiles" is admirable work, but it is doubtful whether every engineer and architect will get a copy of it. How much better it would be if the Hollow Building Tile Association would get out a book on the order of "Cambria," or some similar reference, which would contain a description of the various designs of tile, the advantages of certain types of tile for certain kinds of use, illustrations of buildings where it has been used for different purposes together with strength tests and tables showing the number required for a wall of any dimension.

A publication such as this, made up in an attractive handbook form, and including also some useful formulae for builders and perhaps a description of the manufacture of tile and its advantages, would be welcomed by any architect and would go a long ways toward popularizing this material in building construction.

"OUR ASSOCIATION"

*The Common Brick Industry Has Been Driven Back—
This Condition Is Unendurable—We Shall Counter-Attack*

By W. N. Cary

*Paper Read Before the First Annual Meeting of the Common Brick
Manufacturers Association of America, at the LaSalle
Hotel, Chicago, February 12, 1919*

SOME TIME AGO, when our president, Mr. Schlake, asked if I would prepare a paper for the annual meeting. I asked him what subject he would like to have me write about. He said: "We will leave it to you to choose—anything you think will interest our association." So, acting upon that request I have taken the last two words for my subject—"Our Association," and will undertake to bring to your attention some of the things that come to my mind as being of importance, and having to do not only with what our association should mean to us as members, but also with what our association can expect of us, and what we as individuals should mean to our association.

If my power of description will enable me to do so, I want to impress on your minds the likeness of building up

case, both by the parents of the child and also by those who are building up an association; then I want to call your attention to the further obligations toward both child and association; and lastly I want to point out that when grown, educated and trained, the youth, in his strength, at some time surpasses the capabilities of the parent, and in like manner the strong association surpasses the individual and is able to accomplish more. To make the proof of this last point as plain as possible I have chosen only one out of many things as an illustration.

AN ASSOCIATION—WHAT IS IT?

Taking first the word of most importance in our subject—association—we find it to be, "A union of persons in a company for some particular purpose." It therefore represents the thoughts of a number of people along a certain line. Being in this sense an accumulation of thoughts, an association, like thought, may be said to have no material existence, tho, like thought, it has a very real existence, for, "As a man thinketh, so is he." If a man's thoughts are honorable and directed toward advancement then that man will continually strive to achieve those ideals. And if an association directed by the thoughts of the membership body received only honorable and advancing thoughts from that body, then that association will just as surely be honorable, and advancement will certainly follow. An association is different from an individual only in that it is the combined thoughts of its members, and as truly represents those who actively make its existence possible as an individual's actions represent his thoughts. Since the intent of an association is to become greater and be more than the individual, and since it is certain that the combined thoughts of numbers are greater than the thoughts of an individual, then to be really great all these separate individual thoughts must be merged and combined in one great thought, and that will be an association.

An association is not a number of different manufacturers gathered together each with his own personal viewpoint separate and distinct from all the others, but an association is formed when all the different sections and all the different opinions are mixed and intermixed until there is just one mass of the whole.

As a homely illustration we may consider how cakes are made. If we have never made one we have seen mother, wife or sister gather about her the supply of flour, eggs, milk, and other ingredients necessary and then proceed to mix the whole in one mass, beat it well together and finally pour it into a pan and place it in the oven. The great



All These Separate Individual Thoughts Must Be Merged and Combined in One Great Thought and That Will Be An Association.

an association to the bringing up of a child from the period of infancy to its full growth. I want to show the similarity of care and attention that must be given in either

secret of success is in having good materials and in having them well mixed. If the milk should be a little sour it may be sweetened or counteracted by soda, and any lumps in the flour may be taken out by sifting, but if you come to a bad egg—keep that out. When the whole mixture is ready for the oven, if properly mixed, it will rise to the very heights of its possibilities and be a morsel fit for a king. Think for a moment what you would have of this same material if not mixed. Instead of a cake you would find in various parts of the pan some browned flour, scalded milk, shirred eggs, and sticky sugar, while the salt, flavoring, and leavening would, if separate, only make the mess more unpalatable and disgusting. Now take the manufacturers of common brick as the ingredients of this association. We have them from the west and from the east, from the north and from the south, with various opinions and customs, but they must be mixed and intermixed until there is no north, no south, no east, nor west, and the opinions and customs must be mingled and mixed until there is one great whole. Then when the fires of competition shall come we shall rise to the heights of our possibilities and be the perfected whole that shall stand and endure as an association.

THE VALUE OF THE WORD "OUR"

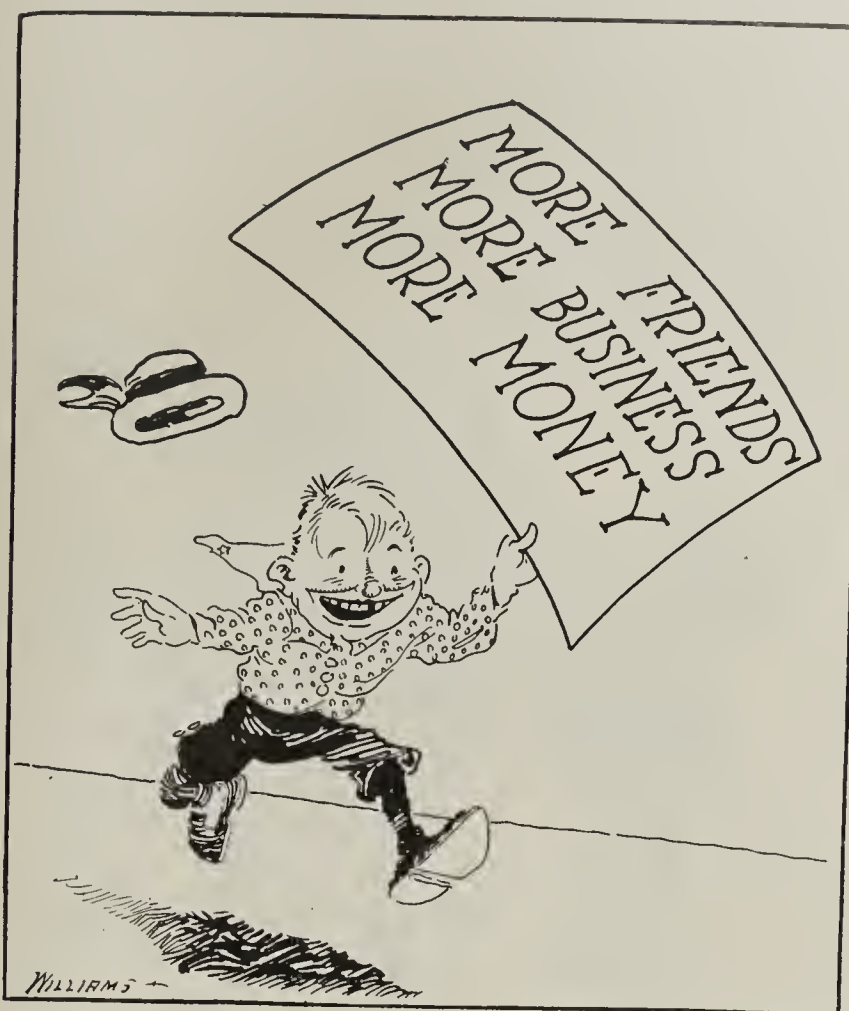
Now let us consider the meaning of the little word O-u-r, and think of some of the wonderful effects that one short word makes when placed ahead of subjects that are of importance in our lives.

Take, for instance, just the word "country." We might listen perhaps with attention to a person talking and using that word as often as he might choose, but it may mean so many places that it makes no particular impression on our minds. It may even mean a country for which we have some particular dislike, as we all know of one particularly unlikable just at this time. But if you put the word *our* ahead, and say "Our Country," then you strike a note in our make-up that sets us aquiver with emotion that will hardly allow us to keep still. (Applause.)

Now take a flag. We look on it as being of beautiful design, or perhaps we may notice the fabric on which the emblems are traced, but we don't enthuse so very much over the most beautiful flag, no matter how nicely it is made or how attractive it looks. But wait! There comes down the street a company of men. They are dressed in a yellowish color—nothing so very wonderful about the quality of the cloth, or the cut and pattern—but there floats ahead and over them a flag which they are now following as they followed it some months before over the shell-torn fields of France. It is tattered; there are holes torn thru it, and there are bloodstains on its fabric; but we see the square of the blue in the corner with its white stars and the thirteen alternate stripes of red and white. Well, all questions of material, beauty, or any such thing are as nothing. Only the fact that it is *our* flag can be given any thought. We stand at attention, thrilled with emotion, and again o-u-r stands out while we watch our boys swing along making a trio of our boys, our flag, and all meaning our country. (Applause.)

Then we come down to our personal affairs and find this one little word still coming to the front in just the same importance. We have nearly all of us had good fathers and good mothers, as good fathers and good mothers are the rule in this country, so we have had the good fortune of having had good homes thruout our childhood and on into early manhood or womanhood. But to the most of us has come, and to others there is the expectancy of coming, a time we will always remember, tho years may dim many other memories—the time when, after the minister has given

his blessing and the old shoes and rice have been pelted at you to the satisfaction of all your folks you finally reach home. And right there and then, without any reflection on



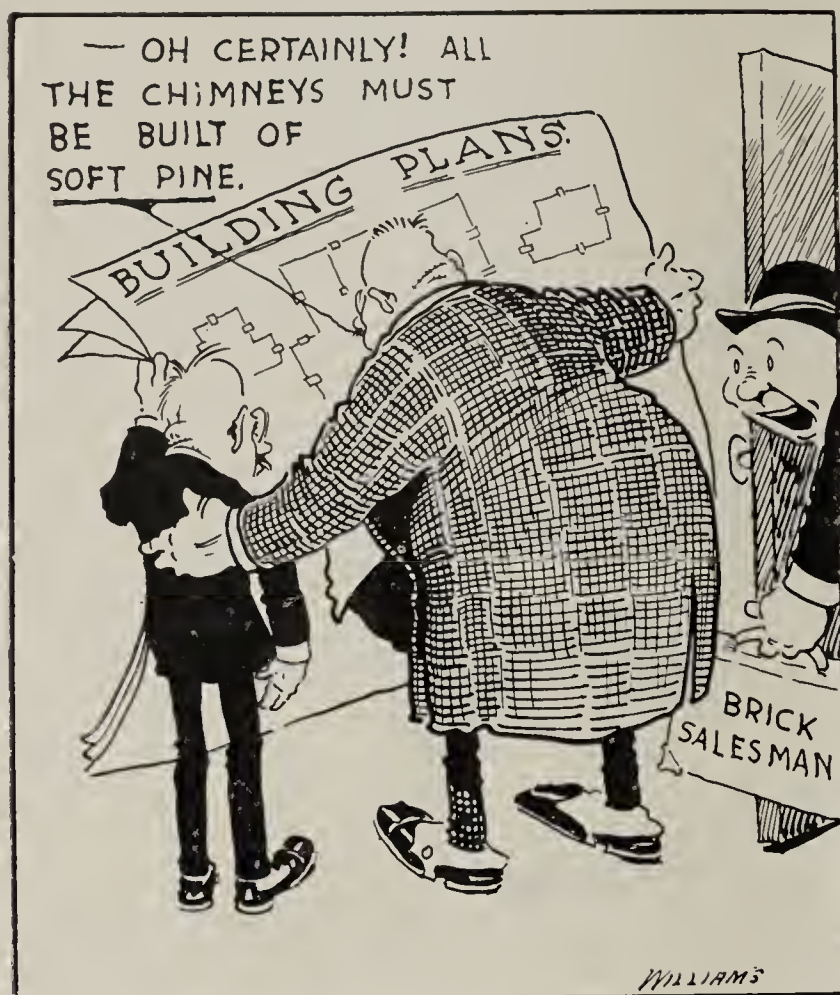
Those Who Have Cared for It Are Even Now Receiving Some Returns in Ways of Little Errands It Runs for Them.

the old home, when just you and the partner you have taken for better or worse walk together into the new home and pause, then taking each other's hand look about thru that house, you don't need to say the word, you feel and know it, *our* home. Well, there may be a more satisfied feeling when we enter the pearly gates, but it is not to be found on this side of the river. A home may be a necessity; *the* home may be one of the beautiful expressions of civilization; but *our* home is the perfection of all that the word "home" can mean. And it doesn't make any difference what the house is—whether it is a mansion furnished with the gatherings from the corners of the world, or whether it is a cottage or even a shack—that little word o-u-r makes it a heaven. Then if in the course of events there shall come a day when you bend over the form of her you love and, as the tiny flannels and soft laces made and woven with loving care of expectant motherhood are turned back, you look first into the eyes of the mother brimming with love and a something that no pen can describe, and then at the tiny bit of humanity and say only two short words—*our* baby—again the word o-u-r makes the world not just a place to live in but a wonderful, beautiful land, not only of promise but of fulfillment, and one feels that there is nothing more that can be of much importance or can matter much, all magnified by that one word "our." Country? *Our* Country. Flag? *Our* Flag. Home? *Our* Home. Baby? *Our* Baby.

MORE TO LIFE THAN MERE SENTIMENT

But in life we find we are not allowed long to exist just on our sentiments. There are things we must do if we are to enjoy these blessings we have taken possession of, as *our* is always the possessive case, and there are duties and acts that must emanate from us if we are long to enjoy the pleasure of possession. There is service we must

stand ready to give our country if she needs it, and the flag we call our flag can really be our flag only if we are ready to protect and defend it. Then our homes must be taken care of, for we must by our efforts "Keep the Home Fires Burning." We must put forth efforts to gain the necessi-



There Are Attacks Made Against the Industry by Powerful Agencies That Foist on the Market Other Kinds of Building Material That Continually Takes the Place of Brick, Until We Have About Come Down to the Point of Being Just a Looker-on When the Buildings of the Country Are Being Planned and Erected.

ties for our homes if there is to be continuation of comforts, knowing what effect the matter of neglect on the part of either husband or wife has on the question of home. Then when it comes to the baby our qualifications and abilities are put to the test. Thru the early days of infancy when the matters of health and growth are the most necessary thru the training of childhood until childhood grown into manhood or womanhood, those are the days when we need judgment and wisdom to train our children in the ways of right living and uprightness, to fit them to take their places in the world of events. I want especially to call your attention to the fact, known to all, that thru the early life of the child no parents ever expect the child to do for them, but the parents do everything for the child. We look ahead and see that the baby must be healthy so that growth and strength may follow, that care must be given to all its affairs thruout childhood's education and training, and that always the parent must care for the child until there comes a day when the child and parent stand on a common level—and pass—and from that time on the child begins the care of the parent, and the parent becomes as the child.

THE GAME OF MAKE-BELIEVE

I would like to have you consider that all I have tried to point out to you as the meaning of the word "our" when prefixed to the other subjects mentioned applies with all its force when placed ahead of the word "association." Many of us, and perhaps all of us, have been members of associations. Many of them may have been good and seemed to have

just the right objects in view, but like passing out of the old home, we now enter our new home and for the first time in the history of the common brick industry we can say *our* association. Without a single word to say against the other association to which we may have belonged, or even may at this time belong, I want to emphasize the fact that we right here and now have an association that we can call our association, which should make each and every one of us have a deep feeling of satisfaction.

It may be childlike and simple for people of age to play make-believe, but there is always an appeal that grips us as we hark back to the days of childhood and live over some of those little affairs that then held our attention. The grim facts are the rule in after years there is never in our lives more of the pleasure of living than when in our minds' fancy we turn back the years to the days we played "make-believe"; always with a feeling that at some time, in some way, it would come true. With this feeling let us repeat with James W. Foley his verse from the "Golden Hour":

*"So let's dream like a child in its playing,
Let's make us a sky and a sea,
Let's change the things 'round us by saying
They're things that we wish them to be;
And if there is sadness or sorrow,
Let's dream till we charm it away.
Let's learn from the children, and borrow
A lesson from childhood; let's play."*

Let's play we are today in the land of the fairies, and that our association is our baby—our child—while the fairy godmother stands waving her wand of possibilities over the cradle of our imagination. We see this infant, our association, only about six months old, but with such a promise of success that no mother ever looked into the face of her little one and expected more of the possible to happen. We see our wonderful youngster grown in these few months from a helpless infant of last June to a robust, healthy child of nearly one-half its full stature, so we know the care and attention given must have been good, or it never would have prospered as it has. We notice that it already is getting strong, and those who have cared for it are even now receiving some returns in ways of little errands it runs for them. We know the fairies must be helping to make such quick returns possible, but we must remember that it is still only a baby, and instead of expecting at this time to receive benefits, we ourselves must be ready to extend care. We must realize that the benefits we hope some day to receive will be just in proportion to the care and attention we give to its development and training. If we neglect the child we cannot, and should not, expect it to grow strong and ever be capable of even partially caring for us in the years to come. Right now is the building-up time for this child, and it is for us to build up the constitution and strength with such ideals of mind that it shall reach the point of perfection. Let us endeavor, with all the light given us, to see and point out the path we hope the child to follow, until manhood and supermanhood is made possible. No parents ever expect the baby to do for them in its early years, so we must know, as we are playing the part of make-believe in "Let's play," that this child—our association—for the next few months must be cared for and nurtured, and under the web of make-believe we shall see the child grow to manhood while we are watching, instead of after years of waiting. We see here the assembling of the largest as well as of the smallest of its parenthood to learn of its growth, as this child today is attracting manufacturers from one end of this great United States to the other, come to do homage at its shrine, while we see and feel the expectancy that is expressed in faces of all as they ask, "How does the child prosper?" It

is only a matter of care and attention from now on to make this child develop to the giant of perfection, or as near perfection as human ingenuity can make it, but we must know and realize that right now, and for a short time to come, the care must go from us and not expect the care to come to us. Even tho this is make-believe we must, in fact, be willing to pay out our money for the baby's wants for a while. We must not begrudge the nursery care and expense, and for a time, as these costs seem to increase, we must keep in mind that we are now only bringing up the child, that all the expense of school days, of young manhood, and on into college days is now being experienced. But we will always have the knowledge, and the great and wonderful satisfaction of knowing that we are training this giant youth to be the mainstay and support of ourselves as soon as we can finish his education.

Then there is this one more added thought, namely, that our fairy baby is to take on the traits of character direct from its training. We know, as we never can know with our own children, that this make-believe child will be directed by the magical wand that gives assurance that it will always be true to the teachings that have been given, and that there is no danger of its tracing back (and perhaps not very far back) to some undesirable generation, but it will truly express the very traits we convey to its mind. We will see this child smoothing out the rough paths that the parenthood has trod for years, if its training is directed to that end. There will be a constantly growing feeling of "oneness" as the youth grows to manhood, and when the time of stress shall come for us, as such times always do come, we will find, if we have properly trained and directed what has then become our giant child, that he will be able to make the way easy for our weary feet. This is all make-believe, but is it not possible that the make-believe may be the real?—that our association can be made to be the strong-armed child that we are now training so that it may at some time in the very near future be the support of our industry when the trials of business activity are ours to meet? Let us endeavor to make it so, and return now from the land of make-believe to the land of the real.

MUST HUSTLE FOR WHAT WE GET

In taking as a subject an association of brick manufacturers we are reminded of something that happened some thousands of years ago in the time of Moses when Pharaoh commanded the task-masters and officers to give the people no more straw to make brick, saying, "Let them go and gather straw for themselves." That is about how it has been ever since. The command seems to stand. If we want anything we must go and get it for ourselves, and we haven't been as aggressive as we might have been in a great many ways. Some may think that this order is outlawed on account of time, but there is another rule laid down in the Bible some thousands of years earlier, and there is plenty of proof right in our own industry that it is still in effect. It is the command that, "In the sweat of thy face shalt thou eat bread." Now if we have two direct commands and are influenced by the former why not accept the later and do as directed—go out and get what we have to have? And while in these days we don't have to have straw we do have to have a great many other things just as necessary to continue the manufacture of brick.

In the first place, there are conditions in the manufacture and sale of common brick that exist today that can only be met by the combined efforts of the manufacturers. There are attacks made against the industry by powerful agencies that foist on the market other kinds of building material that continually take the place of brick, until we have about

come down to the point of being just a looker-on when the buildings of the country are being planned and built.

If we want to make brick we certainly have got to have people use brick, and if there is continual effort made to get them to use other materials, then we, of course, can only adopt the same methods and appeal directly to the building public, showing by common sense facts to their complete satisfaction that brick is and always has been the logical, profitable building material that never disappoints.

The time has come and is here right now when, if we as brick manufacturers want to make brick, we have got to go out and "gather straw." The command was not that one or two should go out, but all should go out, and that brings us to the association plan and puts the responsibility of continuing our business squarely up to the whole of us, rather than just any few.

WHAT ARE OUR AIMS AND PURPOSES?

Generalizing doesn't amount to much if we don't follow up our intentions by acts. In fact, it would be just as well, and perhaps better, if we never made even the claim of intention if we are to stop there. Let us get right down to "brass tacks" and try if we can learn what the intentions of this association are. If our association is to be just a kind of industrial, fraternal organization, where we can meet from time to time and enjoy the company of other brick manufacturers, then that should be understood and we could start out with that program in view, and it will not take up much of our time and effort, or cost us much money, or, in my opinion, be of any use to the common brick industry. But, on the other hand, if this association is to be the Moses that



It Must Be Understood that the Amounts Agreed To Be Paid By Each Individual Should Be Paid With as Much Promptness When Due as Your Pay Roll or Taxes.

will lead us up out of the land of bondage and trouble to the land of promise, flowing with milk and honey, then we who are expecting to aid in the welfare of our industry must stand up so that we can be counted.

In the first place, we must join our association. And when

we join, or even before, if we have any old scores to settle with some brother brickmaker we must get them settled—sweeten the milk—so that when we are in we will be in “body and soul.” Don’t merely send in your name and ten dollars, and then you yourself stay as near the outside as you can keep, so that if everything doesn’t go exactly as you think it should you can silently slip out and croak. We want you in, and we want you in “all over.” The water is fine. Get all mixed up in the cake and be just a big, well-doing association.

PROMPT PAYMENT OF DUES ESSENTIAL

Now a few words about paying dues. As this association is planned to be a financial benefit to the common brick industry it must be supported if it is to succeed. Each manufacturer in going in must realize that there will necessarily have to be expenses attached, at least thru the bringing up and education and training period, if any results are to be accomplished. There is not much we ever receive in this world without effort or cost. If you want a good article you have got to be willing to pay a good price, and this applies as a rule to all things that endure. Then it becomes more a question of avoiding waste than of avoiding cost. If you need an article or a service it is waste to get an article or service that may not cost much money, yet is not even worth the little you pay for it. Better, a thousand times better, that you choose first the article or service you know will fill your needs, and then pay the reasonable price for that. The old saying still stands: “You will forget the price long ere you forget the quality.” Understand what the costs of the association are to be, or at least that they are not to exceed a certain amount in a certain period of time, and when due, or at least when asked the first time, without unnecessary delay send in the payment, and charge that amount on your books as a necessary expense in the cost of operating your yard. Don’t try to pay the expenses of this association out of some side fund or think you will pay it from your profit account, but consider it a necessary cost as much as the salary of your salesmen or their expense account. It must be understood that the amounts agreed to be paid by each individual should be paid with as much promptness when due as your pay roll or taxes. If it is to take several soliciting letters from the treasurer each time when a payment is due, then there is just so much wasted energy that should have been used for other purposes. With our suggestions for the betterment and our aid in accomplishing the same, together with prompt payment of dues, which will always be known in advance, our individual parts will be done. Now what are we to receive in return from our association?

OUR ASSOCIATION TO MAKE COUNTER-ATTACK

I believe nearly all of us, if not all of us, feel that we are at the Chateau Thierry period in the affairs of the brick industry. Our industry is being attacked with great force, and for a time has been driven back, so far as proportion of work is considered, and certainly we are not even now advancing. But here comes up our reserve power—our association. And just when many of us have been feeling that there was to be given further disappointments and discouragements we catch a glimpse of the reinforcements, and realize that the things we would like so much to see done, but were unable to do as individuals, may easily be accomplished by our association. May the spirit that actuated our army be ours. The crisis in the great war had been reached, and when a French commander advised the further retreat of the American forces he was answered: “Our flag has been forced to retire. This condition is unendurable. We shall counter-attack.” (Applause.) And from that time on there was continual advance of the allied armies and a corresponding

retreat of enemy forces, until, at eleven o’clock on the morning of November eleventh, the war was won. (Applause.) There are times of crisis in the smaller affairs of our lives as well as in the greater affairs of the world, and today, and on the other days of this convention in the City of Chicago, there is, I believe, a crisis in the affairs of the common brick industry. As we look about us and see the inroads made in our industry by other building materials let us rally our forces and send back the challenge: “Our industry has been compelled to retire. This condition is unendurable. We shall counter-attack.” (Applause.)

OUR PRODUCT MUST BE ADVERTISED

The great aim and the most important work of our association is to make possible—or, rather to make sure—the sale of more brick. The way to bring this about is to follow the well-beaten track of those in other lines whose paths have led to success, and when we study their methods we immediately find advertising, a medium for increasing sales as advertising properly conducted, is nothing more or less than scientific salesmanship. We all know that it is impossible to send representatives of our product thruout the country to impress on the mind of the building public the advantages of using common brick, but this is the work that must be done. Now, how can we do it except thru the art of advertising? Not advertising by any form of catch phrase, such as, “Build with brick,” but, in the first place, by using those periodicals that will be best able to reach those who have the authority to decide what materials are to be used, and, in the second place, by making such statements, and then repeating them, as will prove to their minds that brick is the one great, durable and dependable building material that never disappoints—that neither frost, nor fire, nor floods, nor even time itself will destroy.

I do not consider myself competent even to suggest the periodicals we should use to accomplish this work, and it is possible there may not be one in this whole association who really does know, but that does not block our undertaking. We may not know how to send a wireless message to our friends miles out on the sea, but all we have to do, to send such a message, is to give the order and pay the charges for same, and the message goes. Our association should undertake this manner of increasing our sales thru advertising, and I strongly urge that we take this under serious consideration as soon as possible; and while it must be done by our association for the purpose of equalizing the expense to the industry as a whole, yet it should, in my opinion, be a separate work from the regular routine of association matters. A small committee, selected on account of their fitness for the undertaking should choose a man to conduct this part of this work, under their supervision, who shall be capable of executing the details. He must be more than a clerk—he must be an executive. Then there should be a regular contract made with each manufacturer which shall be just as much a matter of obligation as any other account that may be made. It must be drawn with definiteness, showing amounts to be paid and the dates of payment, and any failure to pay on the part of any one should result in most strenuous effort to collect, as only by each paying his share, as agreed, is it fair to all others.

SO MUCH PER THOUSAND BRICK TO BE PAID

It might be considered that one per cent. on gross price per thousand received for brick loaded at yard would be a fair and reasonable amount for undertaking this work, provided that a great number of manufacturers should be willing to make the effort. Or perhaps even a better plan would be five to ten cents per thousand on agreed output. If I were to decide at this time I would say one-half of one cent

per thousand, payable each month on agreed output, which would be six cents per thousand for full year. And this small sum for each to pay per each thousand, which would hardly be thought of by any manufacturer in considering a sales price—whether it should be six cents per thousand more or less—would, if paid into this fund, amount to the grand total of \$125,000 with even the present membership. But as we are not considering even starting this work unless we have a much larger membership it is reasonable to expect that a sum of at least \$200,000 can easily be raised by a payment of a sum not exceeding one-half of one cent per thousand each month.

Only by looking back over the trial we have come thru, and seeing the point where we now stand, can we realize the serious outlook for our industry unless we rise in our might and decide that we are willing, and even more than willing, to undertake for the next several months to make this one more effort, in spite of the fact that we would like to have some things other than they are. If there is purpose enough in ourselves to rise above the petty selfishness that has held us in bondage for years and gain the broader view of conditions, having charity for those who do not see as we see or feel as we feel, then I believe we will have reached a point where we may enter into this work with benefit to the whole industry. We may well realize that for a while we may be spending our money to increase the use of brick by our advertising and that perhaps others, who are not making payments, may receive nearly, if not quite, as much benefit as ourselves. But it is with all this knowledge and understanding on our minds that we are yet ready and determined to press on, hoping and believing that as conditions develop most, if not all, of those who do not now see their way clear to join us in this movement may in the very near future do so, and thus complete this necessary program. There need be no hesitancy on the part of any individual in joining our association thru fear that we may be marking out a path of heavy expenditures, as I repeat that this part must be done under separate and distinct contracts, and it is of such great and far-reaching importance that, in fairness to all I can see only this manner of conducting the work—thru and by a National Association, such as our association.

THE FAILINGS OF OTHER MATERIALS

Ordinarily it is not in good taste to refer to the failings in the materials of our competitors, but there are some comparisons that we all have seen or know of, that stand out so plainly that there can be no complaint if we refer to them in passing. Because it is, and will be, a part of the work of our association to make known these and other facts in regard to building materials is the reason that I even refer to them. And if it may seem that I am wandering from my subject of our association to certain qualities and defects in building materials, it is only to impress on your minds that a great part of the work of our association is to study and distribute just such information to the public. And tho there are such a great number of important subjects for our association to take up that we must choose some one particular thing at a time and follow that to success, or until it is started toward success, rather than to undertake so many things at one time that we do not make complete success of any one, yet for that very reason I believe I am justified in speaking on this one point—quality of the different building materials, and the opportunity of our association to better conditions.

In the early days there seemed to be no implements to use for the building of houses, and, therefore, if the race of humanity strayed from a climate of warmth to one of snow and ice, or even to the lands of rain and sleet, it was neces-

sary to find some form of protection, so they adopted the simplest form of shelter and burrowed, or dug caves. Then followed the thatched hut, and with the development of tools the ax and saw made possible the frame building. With the abundance of forest and the necessity of clearing at least a part so that the needs of the body could be supplied, it was only natural and logical that frame buildings should be the next advance over the caves and huts. But here comes the strange part of our account. Why, after the time when the forests have been depleted, after the hills have been robbed of the covering that the great and good God had given them for the protection of the surrounding land, to prevent drouth and flood, and to make it productive not only for us, but for our children and our children's children, why this spoliation should keep up is more than common sense can answer. Why we should cut down a tree that it has taken nature a



Whoever Named That System of Building Had a High Sense of Humor as Well as Some Degree of Honor When, After the Building Had Been Completed, he Saw the "Writing On the Wall," or More Likely the Plaster Off the Wall, and Exclaimed, "Stuck—Oh!"

century or more to produce, and there is great doubt whether nature ever will produce its equal, and saw it up and build a temporary structure that will continually have to be painted, repaired and finally renewed on account of rot, and that will be, all thru its existence, a constant menace as to fire hazard, is a hard question to answer. Why should one build with frame in these days, robbing nature of its rights, endangering future generations with want of substance, and causing a continual source of worry to themselves and neighbors from fire and other dangers?

A CAMOUFLAGE COVERING

The next step in foolish building is to build up some kind of a frame with more or less stability and then proceed to cover that with a sort of camouflage, so that no one can tell what it is made of. I think whoever named that system of building had a high sense of humor as well as some degree of honor when he called it stucco. It may have been the owner when, after the building had been completed, or per-

haps even before that time, he saw the "writing on the wall," or more likely saw the plaster off the wall, and exclaimed, "Stuck—Oh!" (Laughter and applause.)

I always feel sorry for the person who has continually to look at an example of his own foolishness, and so I pity the man who, every time he comes to his home or faces a building built in this peculiar way, will always have the name come up to haunt him and remind him of his condition by its very sound—stucco. (Laughter.)

Then we come to the next manner of building, and if we were to believe all that we read and have preached to us by continual and persistent advertising we would, without more delay, close down our brickyards and join the concrete mixers' union. We are told that from pig trough to mansion there is nothing else like it; that it is a panacea for all building troubles, and should be used for any building you can think of. Well, it may be all right if you don't care how your building looks after it is built, or if you can convince yourself it is not an experiment, or if you don't care if it cracks and crumbles until it looks as tho Father Time had a particular grudge against it and had gone right to work to destroy it. You see cracks up and down and crosswise and this way and that, until the reason there are no more cracks is because there is no more room for them. Then listen and hear some of the promoters tell you just how the reinforcement will hold even if the surface does crack, and if asked how long the strength of the bond and reinforcement will last under the action of climate changes and electrical currents they may tell you that the wasting is imperceptible. Perhaps it may be until some day the outer course will crack away and then you will see just how permanently you have builded. Experimenting—claiming it is fireproof—



Go Thru the Country and See the Ruins of Some Old Houses and There You will See Standing, as a Very Monument of Endurance and Indestructibility, the Old Fireplace with Brick Oven and the Chimney Towering Above, as Much as to Say to All Who Pass, "If Only the Whole House Had Been of Brick."

and yet good engineers will tell you that after an interior fire, if of any intensity, in one of these so-called fireproof structures, the building is never good for the load which it was first planned or built.

JUST A MATTER OF PRECEDENT

Now with which one of these forms of building is the man with common sense going to experiment? Is he going back and join the cave dwellers? No, we know he won't do that. Then will he go back nearly as far and help destroy the forests and add to the fire risks and continual repair lists of replacements by building with wood? Well, he may. As a reason he will tell you his father built that way, so he will. (His father was a Methodist or a Baptist and so he is.) But he can't give you one single reason for building with wood that you can't give him two good reasons why he shouldn't. Then will he build with stucco? Well, he may. There is no accounting for tastes, as the old lady said when she kissed the cow. (Laughter.)

Now we come again to the question of concrete, and here we wonder why so many are experimenting with that form of building. But when we read about the number of so-called engineers being turned out of the technical schools each year with the question of earning their bread and butter staring them in the face, and see the number that turn to some kind of concrete construction as a means to that end—to gain bread and butter—we can understand why, in so many cases, a great big gray mass of blank wall and glass looms high ahead of us as we approach some plants. It is seldom the desire of the owner to have this form of building put up, but he is betrayed by the ease with which he can just turn the whole matter over to some building contractor who has a corps of ready talkers backed by big advertising projects, and with a "Just give us the floor space you want and pay the bills—we will do the rest," the thing goes thru with a bang. Very little attention is paid to anything but the ease with which it is turned over to some one else to do, and that it is an experiment no one can deny. Listen to this from a report of the American Society for Testing Materials appearing in the "Engineering News," issue of April 4, 1912—about seven years ago. It says: "During the past few years there has been considerable discussion regarding the durability of concrete, and there exists a certain amount of disagreement on the subject." And while several persons during the discussion affirmed their belief in the imperishability of concrete, yet the report closes the argument with the following words: "It is no doubt true that many diseases can be cured by a practitioner who strenuously denies their existence and thus encourages the patient to resist and overcome them, but it can hardly be expected that defective concrete walls or disintegrating piers can be strengthened by absent treatment, however vigorous be the denial of the injury, or however prominent the denier." Listen to the closing: "It is much better to look facts in the face and attempt to find a remedy."

SOME MORE ABOUT CONCRETE

Have they found that remedy yet, nearly seven years later? Listen to this: In "Chemical and Metallurgical Engineering," October 15, 1918, only about four months ago, there appears a lengthy article on the destructive action of salt in any form when coming in contact with reinforced concrete. It shows by experiment and observation the failure of this form of construction in numerous localities, and speaks of the disintegration thru the action of water containing magnesium and sodium sulphate occurring in several irrigation projects in some of the western states. Then we come to a report of the United States Bureau of Standards on the action of electric currents on iron bars embedded in concrete. An editorial writer in the same issue of said publication, quoting from this report, says that layers of iron oxide formed at the anode with an accompanying expansion of 220 per cent. of the iron oxidized, which gave rise to a mechanical pressure sufficient to crack the concrete. At the

cathode the concentration of sodium and potassium had a softening effect on the concrete, which became brittle and friable. The origin of the electromotive force may be assigned to several causes, and exhaustive studies are being made of this corrosion, as it is fundamental to modern engineering practice that means for overcoming it should be found at once. Ordinary rustproofing methods are not available, except for a limited use of paint, which has certain serious defects.

PROOF THAT CONCRETE IS A SURE FAILURE

Along these same lines, showing the destruction of concrete, is the booklet recently sent out by our own association regarding the use of this material in the building of sewers in the City of Chicago, and while I started out with the argument that reinforced concrete is an experiment as to durability, there are many, many cases to show that it is not even an experiment, but a sure failure.

Can any one who will give this subject his careful thought go ahead and build in this manner without at least having doubts of his wisdom? Look at the concrete walls along the railroad tracks of the country. Will you say the railroad companies did not have as good a chance to know how to mix the material as any other lot of men? They have their own engineers, and the work has been done largely under their own supervision, yet look at it going to pieces—cracks, and again cracks, then disintegration, and the next thing—what? Experimenting—why do they want to do it?

BRICK—THE RELIABLE STANDBY

Then come to brick, the old stand-by of the ages, known almost as long as human existence. A hard brick is never an experiment, and has not been for thousands of years. Did you ever hear of a man who built a building of good hard brick and then was sorry he used that material? I never have. And those buildings stand today thruout the country as monuments to the good judgment of those men who lived years ago. Go thru the country and see the ruins of some old houses, and there you will see standing, as a very monument of endurance and indestructibility, the old fireplace with brick over and the chimney towering above, as much as to say to all who pass, "If only the whole house had been of brick." I should think that any man, woman, or even a child who has ever had the misfortune to see the brick chimney standing alone after the rest of the house had been destroyed by fire would always regret that they, or the one who built it, had not used good judgment and built of brick. We all know there is no other building material that has such lasting qualities. Go to any of the leading museums of our day and there you will find burned clay, in various forms, that is thousands of years old, and then think what it means to have a house or any building made of material that is known to have stood for thousands of years. If these thoughts can be driven home to the mind of the building public do you think they will continue to experiment? No one of any sense would think of building a home or even a simple building of ice, knowing that when the sunshine and rains of early spring come their house would melt and disappear. Then why should they be almost as foolish and build with materials that when compared to the lasting qualities of brick, are just as fleeting?

All the work of comparative costs and quality of these different materials must be worked out and distributed by our association, and only thru our association can it be fairly done. Any reference I have made to materials is only to suggest a line of work for our association to carry on.

OUR ADVERTISING ALREADY SHOWS RESULTS

To promote the use of brick there is, in my opinion, very

little that any one individual, or even one locality, could feel justified in doing, as no one individual or locality could ever hope or expect to receive any but the most meager return for the energy and expense necessary to collect and distribute the facts to do this work. Now that we have our association we are in the position to take up this line of action, and the expense will be distributed where it should be—to the industry as a whole. Again let me refer to the recent booklet put out by our association regarding the Chicago sewers. Who else could or would have done that work if our association had not been in existence? And who can tell how many millions of brick that one effort may bring to our industry—perhaps in Boston, or maybe on the Pacific Coast—but the fact is apparent that our child is already showing the result of its care and training, and has started on his great work for which we are these days trying to fit him.

We might just as well face the question right here and now. Are we going to give up our business and go to mixing concrete, or are we going to make some attempt to bring our industry back where it will at least be known to exist? We have gone along from year to year and not done a thing to promote the use of brick, and we have seen our business dwindle from one year to the next, until now there is not much left to dwindle. About all that remains of our business is what a farmer would term "next year's seed," and now unless we plant that seed, and take pretty good care of the crop, we will lose even the seed. We, thru the past, have kept our business so quiet one might almost think we had some kind of a hokus-pokus game, or industry that we are ashamed of. About all the advertising you ever see is when some organization booklet is published. If a good talking agent gets hold of us we give him from five to twenty-five dollars to publish our name, perhaps, and the fact that we are brick manufacturers—which fact undoubtedly is extremely interesting to any one contemplating building. Of course we don't get any result from the investment, except the feeling that we have given to someone a few dollars with no thought of ever getting value received. But there are ways of advertising that accomplish the results looked for, and this statement is proven by the way the Liberty Loans were put thru. There was never an undertaking that had more general approval than those loans. There was no word that could be thought or said against their distribution. Everyone knew that it was right and necessary to buy, and again buy, but if it had not been for the liberal use of posters and printers' ink, backed by a mighty will power that said, "It must go," do you for a moment think that in the last loan there would have been more than six billions of dollars subscribed within three weeks? In my opinion we are right down to bedrock, and now what are we going to do about it? Unless we make some effort our industry will surely go to the "bow-wows." We are like a man standing in the street of a city by the open door of a trolley car, making no effort to get on with the crowd, until finally, after all the others have climbed aboard, if we succeed in even getting on there will be no seat, and it is possible we may stand until the door slams in our faces and the car goes along without us. My advice is don't wait any longer. Get on, and get on now, while there is room and take your seat with the others who are riding. We have walked long enough.

It may seem that I have said too much regarding qualities of building materials, and also have been a little too anxious regarding the advertising end of our program, but it is undoubtedly the most important detail of the work to undertake just at this time. There are many other matters that will have to be taken up, many of them of great importance, and some will even have to be considered in connection with this "educational and publicity" work. However, we will

have to take one step at a time, and as we must choose our course I bring this part of the work to your attention.

OUR MAIN OBJECT FOR THIS YEAR

Today, as we commemorate the birthday of the great American, Abraham Lincoln, whose life work accomplished so much for the preservation of our Union, let us also make it a day to be remembered as the birthday of new thoughts and ideas in the preservation of our industry. Be assured that our association that we are now training will be our power of attack as well as our bulwark of defense, just as our boys, whom we trained and cared for so lately that they yet seem like children, have by their ability and valor defended our homes and country during the past several months. And if you forget all else I have said to you, remember this one thing—repeat and keep it in mind—take the thought home with you and let your actions be governed by the force of its appeal: Our industry has been driven back. This condition is unendurable. We shall counter-attack. (Applause.)

To accomplish this and various other benefits our association has been formed. It has the ability to better conditions for our industry as no other line of procedure can. Will we grasp the opportunity? Will we train this child of today along the ways we have outlined, so that in the coming times it will be the support we need thru any stress that may come? Let us give to this association our most earnest thought and care. Let us all watch and guard its every good, and be assured that this child, "OUR ASSOCIATION," will one day be the Moses that shall deliver us thru all our trials into the land of promise. (Prolonged applause.)



No Reduction Contemplated in Freight Rates on Building Materials

Walker D. Hines, director general of railroads, on March 20 issued the following statement:

"Various inquiries have been received as to whether the railroad administration contemplates a reduction in freight rates on materials used in construction of buildings and therefore it becomes important to make it clear that no such reductions are in contemplation.

"The railroad administration is, however, giving consideration to the question of making reduced rates on crushed rock, stone, sand and gravel for road construction when consigned to and the freight thereon is paid by a federal, state, county, parish or township government.

"Before the matter can or will be definitely determined, it is intended to ascertain what, if any, reduction necessary to establish a stable price, will be made in the price by those producing and supplying the materials."



To Those Interested in Hollow Tile

All persons interested in hollow tile may obtain Technologic Paper No. 120 issued by the Bureau of Standards which is ready for distribution now. This paper which is entitled "Tests of Hollow Building Tiles" and was written by Bernard D. Hatchcock and Edward Skillman may be had by sending five cents to the Superintendent of Documents, Government Printing Office, Washington, D. C.

The introduction of the pamphlet describes the manufacture of hollow tile and names seven of its principal advantages. However, the paper is limited to a discussion of only one of these advantages, namely, that of the strength of the tile.

The scope of the tests made are related to its intended use, hence, the tests described in this paper are limited to those of compression and absorption. The tile were graded according to their color corresponding to the variations produced by burning, and tests made on each type. The conclusions drawn from the tests were:

1. The weight of the tile per cubic unit varies greatly with the porosity of the constituent material.
2. The porosity of the constituent material of tile is dependent upon the clays used, the percentage of sawdust mixed with the clay before burning, the pressure to which it is subjected during molding, and the degree of burning.
3. The color of the same tile material is subject to change during the burning process, and the resulting tile may vary in color from very light to very dark shades, depending upon the temperature reached and the time of burning.
4. The strain produced by loading a tile is approximately a linear function of the applied load until failure is reached, or, in other words, the modulus of elasticity of a tile is nearly constant until failure.
5. There is no definite elastic limit for tile; that is, the proportional limit is usually coincident with failure.
6. An incipient failure is not always indicative that the ultimate failure is being approached, as it often occurs early in a test.
7. In general a tile develops greatest compressive strength when laid on end.
8. The tile having the highest modulus of elasticity may not have the greatest strength, but, in general, if the modulus is high, it is to be expected that the compressive strength will also be relatively high.
9. The dark and medium buff tiles have approximately the same relative compressive strengths and moduli of elasticity. The average compressive strengths of tile of these colors tested on end is about 7,500 pounds per square inch, with a possible range from 4,500 to 12,000 pounds per square inch, and the average modulus of elasticity is about 4,430,000 pounds per square inch, with a possible range from 2,800,000 to 6,200,000 pounds per square inch. The same properties of light-burned tile are on an average about thirty per cent. lower.
10. The maximum compressive strength of tile varies approximately inversely with the percentage of absorption.
11. The percentage of absorption of tile varies with the color. In general, the darker the tile the lower the percentage of absorption is likely to be.

Besides a complete description of the tests which were made, the paper also includes tables of the results of the tests and illustrations showing different features of the strength tests.



Prices of Fire Brick Reduced

A cut of approximately 10 per cent. from the recent quotations has been made by some of the larger producers of fire brick, effective April 1, according to the April 3 issue of the "Iron Trade Review."

This action, which is voluntary on the part of the manufacturers, comes in response to the recent reduction in iron and steel and indirectly contributes to the effort of the Industrial Board of the Department of Commerce to restore normal business and industrial conditions in the country. First quality Pennsylvania fire brick are now said to be quoted from \$36 to \$45 per thousand, f. o. b. works, against \$40 to \$50 recently and \$45 to \$55 at the end of last year.

OPEN PRICE PLAN *to be* ADOPTED *by* REFRACTORIES MANUFACTURERS

John H. Cavender Elected to Presidency at Annual Meeting in New York City, March 20 and 21—Association Largely Increases Scope of Work—Constitution and By-Laws Revised and New Export Association to be Organized

ENTERING ITS SEVENTH YEAR with an increased membership—said to have doubled in three years—The Refractories Manufacturers' Association held its annual meeting and election of officers at the new Hotel Pennsylvania in New York, on Thursday and Friday, March 20 and 21.

John H. Cavender, vice-president of the Chicago Retort & Fire Brick Co., of Ottawa, Ill., was elected president; John D. Ramsay, president of the Elk Fire Brick Co., of St. Marys, Pa., was made vice-president, and C. C. Edmunds, treasurer of the McLain Fire Brick Co., of Pittsburgh, Pa., was made treasurer. Frederic W. Donahoe, of Pittsburgh, Pa., was re-elected secretary.

Porter S. Kier, of Pittsburgh, Pa., was retained on the Executive Committee as retiring president, and J. Merrill Wright, of Pittsburgh, was engaged as counsel.

A revised constitution and by-laws, greatly increasing the scope of the association's work, was adopted, and steps

were taken to organize a Refractories Export Association under the Webb-Pomerene Act.

A committee on legislation was appointed to investigate the present tariff on fire clay brick and other refractories with a view to securing, if possible, better protection for operators in the Far West against the competition of brick shipped into this country from Canada, where some plants, it is understood, are making fire brick and employing cheap Oriental labor. It is believed, too, that brick will shortly be shipped from England and Scotland to San Francisco and that these brick will seriously affect the prices now being charged for brick manufactured by American producers on the Pacific Coast.

A meeting of manufacturers of refractories who were members of The Refractories Manufacturers' Association was held on Wednesday, the 19th, for the purpose of organizing the Refractories Publicity Bureau, an open-price association under the Eddy open-price plan.



JOHN H. CAVENDER



FREDERIC W. DONAHOE

SECRETARY of AGRICULTURE APPEALS *to* RAILROAD ADMINISTRATION *for* LOWER FREIGHT RATES

THAT THERE ARE at work for lower freight rates on brick and kindred products powerful interests within the Government, other than the U. S. Department of Labor, is attested by the action of Secretary of Agriculture Houston following his recent conference with the state highway commissioners of the eastern and middle western states. The state officials came to Washington convinced that the present freight rates constitute one of the principal obstacles to the active resumption and extension of road building thruout the country and they were able to bring Secretary Houston to their way of thinking with the result that he has made an appeal to the U. S. Railroad Administration, backing similar pleas from other sources in behalf of the removal of a portion of the present burden of transportation charges. Incidentally the representatives of the brick industry at Washington have promptly put in their oar for the purpose of bringing to the United States Railroad Administration officials realization of the wide and ever-increasing extent to which brick is used in highway construction, rural as well as urban.

INSIST ON IMPROVEMENT IN SERVICE

With this agitation for lower rates holding the center of the stage in the freight situation there are not a few practical clay products manufacturers who insist that it will not suffice that there be no increase on two-haul business but rather a horizontal reduction for the whole line. On top of that, they insist, there must come an improvement in railroad service. The shortcoming complained of may be due to governmental management or merely to the war-time derangement of operating forces but that they exist is beyond question. One of the practices most complained of is the circuitous routing which delays brick and clay products deliveries almost as seriously as they were delayed a while ago by car shortages and congestion at junction points. Another and even louder protest in trade circles is to the effect that lower freight rates will be figuratively but "half a loaf" unless accompanied by an improvement in the system for settling claims for loss and damage to shipments. The proportion of losses and damage in transit has increased sharply during the past year or two and the more numerous the claims, the more tedious and difficult it has been to effect settlement. It has been so easy for railroad men to put the blame for tardiness and inaction on Uncle Sam—"official red tape, you know"—and they have not scrupled to do it. The result is a sentiment among shippers bordering on revolt and that will not be wholly appeased by a sop in the form of freight rate cut, however welcome that may be.

HINES EXPECTS MORE EFFICIENCY

With reference to the charges that have been made of inefficiency in operation Director General Hines said the other day that whereas he did not believe it would be "just or reasonable to labor" to take away any part of the 32 per cent. wage increase granted in 1918, he did expect to get much better results in operation because it will be possible to get more experienced labor than was available during the war. Mr. Hines conceded that the pay of railroad men ought to go down if wage levels in other industries are reduced but he insisted that for the present at least, the wage level is "entirely reasonable;" that it is useless to

attempt to forecast the future; and that it will be time enough to deal with a new situation when it arrives. Finally, to turn to one other angle of the freight situation, we have looming before us the question of whether the failure of the congress that recently went out of existence to appropriate a revolving fund for the operation of the railroads in 1919 will serve to delay the delivery of the new cars ordered for this season and that are, as some brick men have reason to know, sorely needed in certain sections of the country.

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Lower Food Prices in Near Future

George N. Peek, chairman of the Industrial Board of the Department of Commerce, and William M. Ritter, a member of the board, have returned from New York where they went to secure from officials of the United States Food Administration and the Grain Corporation a statement of their policy on food prices.

"Food administration officials felt that it was unfortunate that there had been such general misunderstanding of Mr. Hoover's statement that 'we might see wheat at \$3.50 a bushel,'" Mr. Peek said.

"What Mr. Hoover said was: 'We might see wheat at \$3.50 a bushel as it was in the spring of 1917, if there is a free market in wheat and uncontrolled prices. So much for the 1918 crop. There can be no free market of 90 per cent. of the world's exports. As to the 1919 crop it is of course too early to come to any precise conclusion.'

"It is clear," Mr. Peek continued, "that, as Mr. Hoover says, there can be no free market at present, in the first place, because of the unsettled conditions in business—especially in shipping and finance.

"Further, the phrasing of the grain appropriation bill clearly indicates that the \$1,000,000,000 appropriation was made by Congress not only to make good the \$2.26 wheat guaranty to the farmers, but to enable the Government to sell wheat and flour at the guaranteed prices, or at such other prices and on such terms or conditions as may be necessary to carry out the purposes of the act, 'and to enable the people of the United States to purchase wheat products at a reasonable cost.' Wheat is the basic food commodity. What is a reasonable cost must be determined by conditions. In July the new wheat crop, estimated at a billion and a quarter bushels, will begin to come to market.

"I believe, therefore, that there is every reason to expect lower food prices in the relatively near future. This view I believe the men in charge of the affairs of the Food Administration will share."

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States May Have Millions of Federal Government Money for Roads

Road-building authorities are predicting that 1919, 1920 and 1921 will prove the greatest in the country's history in the matter of road construction. In view of the unprecedented appropriations of funds for federal aid for road projects and the activities of the states in extending

their road-building programs the prediction appears to be fully justified.

The Division of Public Works and Construction Developments of the United States Department of Labor is authority for the statement that there has been a revision and enlargement of road-building plans in almost every state in the Union since the signing of the armistice. This is due not only to the pressing need for road construction, which has been suspended during the war, except where construction was essential to military activities, but also to the obvious desirability and prudence of getting public works under way so there may be such a demand for labor as will absorb the labor surplus.

Ultimately there will be a labor shortage in the United States. At present there is a surplus, and this is apt to grow to embarrassing proportions during the next few months of demobilization if no conscious effort is made to immediately revive building and construction activities to provide buffer employment until our industrial readjustment has been completed. Quite as important is the effect of an immediate acceleration of construction work on general business conditions. Federal, state, and municipal construction projects, assisted by private and corporation building activities, will be potent stimuli for general business and will prevent the stagnation which would spell commercial disaster.

Federal aid for road construction for 1919, 1920 and 1921 has been provided on a more liberal scale than ever before. If millions of federal funds are not absorbed by the states in state road projects, it will be no fault of the Federal Government. Millions are available. How completely the possibilities of the present opportunity are approximated depends on the state administrations.

Federal funds to the amount of \$266,750,000 will have been made available for state road projects by the end of the fiscal year of 1921. Under legislation enacted prior to the last Congress there are available for 1917, 1918 and 1919—and now apportioned among the States—\$29,100,000. To this, the last Congress added \$48,500,000 for the fiscal year 1919, making the total of federal aid for road construction to the end of the fiscal year 1919, \$77,600,000. In 1920 there will be \$92,150,000 available for this work, and in 1921 an additional \$97,000,000.

The last Congress amended the federal-aid law in such fashion as to give the states more latitude in building. These changes became a law thru the passage of the post-office appropriation bill.

In this fashion the Federal Government has done everything it can do to encourage the states to go ahead with road construction, the need for which, while recognized by every progressive citizen, has been most forcefully brought to their attention during the war. In addition to all the good-road arguments advanced heretofore, we must now add the important consideration of their bearing on national preparedness.

The Division of Public Works and Constructive Developments of the Department of Labor has reason to believe the recent conference of governors and mayors in Washington resulted in a more thoro understanding of the necessity for and prudence of liberal road-building policies thruout the country. The latest information compiled by the division showed 18 states endeavoring to increase their appropriation for road building. The states and the amounts involved in the plans pending at the time the information was furnished (late February) are:

Arkansas, \$5,000,000; Colorado, \$20,000,000; Georgia, \$40,000,000; Illinois, \$60,000,000; Kansas, \$60,000,000; Michigan, \$50,000,000; Minnesota, \$100,000,000; Missouri, \$60,-

000,000; Montana, \$15,000,000; North Carolina \$25,000,000, available at the rate of \$2,500,000 per year; Oklahoma, \$50,000,000; Pennsylvania, \$50,000,000; South Carolina, \$25,000,000; South Dakota, legislation pending to extend the road program but no estimate of the amount to be spent; Tennessee, \$40,000,000; Texas, \$75,000,000; Washington, \$30,000,000, available over a period of six years; and West Virginia, \$50,000,000.

Most of the foregoing was on March 1 dependent on state legislation or on referendums on bond issues, and if, in every instance, the propositions were carried as planned, only a lesser portion of the money would be available this year, and, in some states, none would be available until after November of 1920. The figures indicate, however, that the states are taking a new interest in the road-building movement and further justify the prediction that the next three years are to bring unprecedented activities in the improvement and extension of America's road system.

It is admitted in the Department of Labor that present construction costs are much higher than the pre-war level. In part this is accounted for by freight rates on road materials established during the war to prevent the movement of these materials for work other than Government work. There is every reason to believe these rates will be revised at once. The effect of such revision will be favorable to reduced construction costs, but most authorities are agreed that pre-war prices in this field will not be re-established. The condition of our currency and the generally higher price levels thruout the world will not permit a return to pre-war prices, and for these reasons present construction prices are not as abnormal as the popular mind is prone to believe them.

The Division of Public Works and Construction Developments of the Department of Labor asserts, regardless of present construction prices, it is a paying investment for states to at once get road work and construction of public improvements under way. The dividend and benefit of this policy will appear in the early improvement of general business conditions and the ready absorption of such labor as is released from the army and war industry.

* * *

"Watch Our Smoke"

E. J. Schario, formerly general manager of the Keim Brick & Tile Co., Louisville, Ohio, manufacturers of the famous "Egyptian" brick, and who, as many of our readers will remember, was for a number of years located at Detroit, Mich., has together with other associates not known to the brickmaking world, purchased the interests of the above company, which is now known as the Mapleton Clay Products Co., with headquarters at Canton, Ohio. Mr. Schario has been elected secretary of the company. The new concern has adopted as its motto "Watch Our Smoke."

* * *

Big Chicago Dealer to Distribute "Pos-Tex"

The Wisconsin Lime & Cement Co., Chicago, Ill., of which Joseph Hoch is president, has just taken over the distribution of the output of the Poston Brick Co., Springfield, Ill., according to an announcement just made by Wm. H. Gifford. The Chicago concern, "Giff" says, will handle the sale of the famous "Pos-Tex" brick thruout the entire United States, with the exception of Springfield and the immediate vicinity. "Pos-Tex" brick are multi-colored. Each individual brick contains several colors, including green, red, brown, tan and purple.

HYDRAULIC-PRESS BRICK COMPANY

MAKERS AND DISTRIBUTORS OF Hy-tex FACE BRICK

GEO. A. BASS, PRES.; RALPH SIMPKINS, VICE-PRES. & SECY.; GEO. F. BAKER, TREAS.; F. W. MILLS, GEN. MGR.
CENTRAL NATIONAL BANK BUILDING, ST. LOUIS, MO.

January 4, 1919.

Mr. C. F. MATTES,
Sales Manager, Decatur Brick Mfg. Co., Decatur, Ill.

Dear Sir:

If ever at any time the American manufacturer has been called upon to set his house in order or, in other words, to know just where he stands and what he can do, that time is now. And nothing is more obvious in the present situation than the necessity of mutual, co-operative understanding on all essential questions, among those who manufacture and distribute their products.

At the very beginning of this process, as the first essential condition of success, is knowledge of costs. The manufacturer who plunges forward without fully knowing his costs of production is like the mariner who would plow his way through unknown seas without chart or compass. He not only pursues a course hazardous to himself, but endangers others as well.

Hence, I beg of you to suggest to those who have not yet adopted the American Face Brick Association plan, to act at once in the matter, as your first imperative obligation, with the beginning of the year and of the new period of reconstruction which is upon us.

As you know, the Association with great expense and trouble worked out with the well-known firm of Certified Public Accountants, Ernst & Ernst, a simple and complete system of cost accounting, especially adapted to face brick manufacture, and with this system we are fully in accord.

As much as we individually benefit by such a system of cost accounting, its great practical value to the Association as a whole lies in its uniform application by every member. The member who neglects, underestimates, or confuses his costs, doesn't simply fail in his plain duty of pledged co-operation, but defies the express purpose of the organization and, at this vital point, defeats the very reason for its existence, besides revealing his lack of business acumen and risking his own investments.

The war has suddenly ended, before most of us expected, and thrusts upon us the immediate problems of readjustment. In meeting this situation intelligently and successfully, nothing comes before the knowledge of how much it costs to put our products on the market. If you would be loyal, co-operating members of the Association, as well as safeguard your own business interests, I again urge upon you the desirability and necessity of adopting the Association's plan of cost accounting.

Very truly yours,
GEO. F. BAKER, (Signed)
Treasurer.

SIMPLIFIED SYSTEM of COUNTING COST

Author Presents a Plan Which Meets the Need of the Average Size Brick Plant and Urges the Inclusion of Some New Items in "Brick Cost" Which Heretofore Have Been Given No Attention

By C. F. Mattes

Sales Manager, Decatur (Ill.) Brick Manufacturing Co.

SOME TIME AGO *Brick and Clay Record* in reviewing the brick making of Europe, quoted the investigator as stating that the same was primitive and as a whole the people engaged therein were of low mentality. We can pride ourselves, at least in America, as being considerably ahead of that state. However the industry in our own country in the past has had a mighty low standing in the industrial record of our nation. Perhaps the very nature of the business itself has been the cause. It was so easy to dig up some clay, mold and bake it. Therefore in the early stages of the industry, particular skill and genius was not required and consequently it was many years before the clay working industry discovered the possibilities which attracted the attention of scientists and men of large industrial vision.

Since that time an interesting evolution has taken place until the industry now bids fair to attain industrial eminence at the head of national activities, for the building industry of this nation is one of its greatest activities and the clay working branch should stand out as the greatest integral part thereof. The early clay working associations were the basis for this development, but the organization of the A. F. B. A., to my mind, was the first full sized step forward in this great movement. Great credit is due the broad visioned men who were instrumental in forming the nucleus around which is now being steadily shaped the destiny of brick manufacture.

PUBLICITY THE MEANS OF SALVATION

But how are we as an industry to attain this great eminence, which in our own vision seems possible? By an unparalleled campaign of national publicity, not spasmodic but continuous year by year until we have put our industry in first place as regards building materials. A place such that when building is thought of, clay products are thought of, not wood; a fire resisting era. In certain European countries to have a fire is a penal offense, and consequently no chances are taken with frame construction. In this country, our increasing fire losses are admittedly alarming our insurance companies. Cheap building has been the slogan, but if we as an industry, spring into the opportunity which is ours, the time will come when wood will largely be relegated to a place of interior finish and clay products will be the standard building material.

I fully believe that ceramics as a science in brick burning will develop until brick will be burned with all the varied colors and blends now burned into pottery, when painted wood as an exterior material will be practically

unthought of; but clay products will be the unchallenged material of construction for beauty and premanence. To hasten this day when the clay working industry shall come into its own, I say we must have internal improvement, experimentation, efficiency, national publicity and education. This calls for the expenditure of large sums of money. In order for this money to be obtainable the industry must make a sufficient profit to produce the revenue. The Sherman anti-trust law in our industry the same as in others, has been a severe handicap against progress. Its mistaken intentions are now being realized and the probabilities are that ere long industrial organization in place of being thwarted will be encouraged at least under governmental supervision. It might appear that this is a treatise on better selling prices and national publicity, but not so. My point is this: *We must know our cost of production*, altho as previously indicated, we have advanced considerably, yet as a whole, we do not know our costs. Ernst & Ernst's accountants who were selected by the A. F. B. A. to make a survey of the brick industry for uniform cost finding, altho inspecting the plants above the average brick plants stated that the industry did not know its costs. Will we name a selling price which will yield a profit on investment and also for research and publicity if we do not know our costs on which to base this selling price?

Some manufacturers probably do not even keep an account of their expenditures, their bank book being the only available bookkeeping system. Such a manufacturer is hopeless I suppose. The average manufacturer, however, keeps books, and has a record of his expenditures (or costs as he terms them) as far as he knows, but there are elements of cost which may be negligible for the time being, but which steadily advance until they will be consuming, and little residue is left. It is my purpose to discuss herewith particularly, four elements of cost which have largely been lost sight of by brick manufacturers, namely, depletion of shale fields, depreciation of plant and equipment, interest on investment and interest on finished stock inventory.

DEPLETION

Let us first consider the element of depletion of raw material since this is the first step in our process of manufacture. It is an established principle that there should be no economic waste of natural resources. These shale and clay deposits are a valuable asset to our natural existence. They should not be depleted unless a like amount of wealth be produced therefrom, or in practical terms, it is a crime

against nature for a brick manufacturer to devastate a valuable shale deposit and produce therefrom only enough wealth to pay a few laborers a pittance, himself and a few others a living salary, with probably nothing for the stockholders who have put wealth into the concern, wealth which has been produced in other channels.

The product produced from that shale deposit should have brought a profit based on the value and life of the deposit, so that the wealth thus produced could have been made productive for other uses, not wasted. Our Government is beginning to recognize the necessity of conserving our natural resources. Many laws are being enacted protecting the same. It behooves us therefore since it is necessary for us to destroy, that we also replace. Concretely, therefore, the first element of cost in the manufacture of brick is a charge for depletion of shale fields, based on the cost and probable life of that particular deposit. If the deposit is invoiced at \$10,000 and will probably last twenty years, then each year there should be charged off one-twentieth of \$10,000, or \$500. If costs are taken off quarterly, then \$250 per quarter. A depletion reserve of \$250 per quarter should be set up in order that these charges may be anticipated.

DEPRECIATION

Secondly, the matter of depreciation. Ernst & Ernst recommend a separate depreciation for Plant and Equipment, and Kiln Account, page 9, "Report on Cost Finding," stating thus: "We recommend that depreciation expenses be divided into two divisions, depreciation of Kilns and depreciation of Plant and Equipment, for the reason that the kilns depreciate much faster than Plant and Equipment, and for the sake of accuracy, should be dealt with separately." The item of depreciation is one of the greatest factors in the cost of production, and in the past generally eliminated entirely. In recent correspondence with manufacturers in Illinois and Indiana, I find that many have considered neither depletion nor depreciation as a part of their cost of production.

As in the case of shale field depletion, the wearing out of wealth represented in the plant must be replaced, and it should be replaced out of the profit which the plant produces, and still leave a profit for the owner. Practically stated thus: Say a plant is built and operated for years. Ordinary repairs are kept up, but the plant eventually gets in such a bad condition that it requires \$25,000 to rebuild and replace it. The money is not available in the treasury and the selling prices received for the product have only permitted the stockholders to receive a small return on the money invested during the years of operation, but the manager is compelled to go to the stockholders and say: You must put up \$25,000 to put the plant back in shape. How much, then, have the stockholders made? Not the dividends taken out but what they did not have to pay back. If the plant has been depreciated and the charge made a part of the costs, it is assumed that the selling prices would have been proportionately larger, so that the owners, if necessary, could have replaced the depreciation and still have left a reasonable return on the investment. However, no property should be allowed to run down to an extent where the improvement would have to be made at one time. On the contrary, it should be kept in first class condition thruout its operating period.

The unfortunate thing in the brick industry I have found, is that many plants are operated on a royalty or lease. The lessee does not care anything about the depletion of the deposit or the ultimate collapse of the property. He lets the owner worry with that, and simply makes his selling prices such as to cover actual expenditure of money, and lets the devil take the hindmost. Such an operator is foolish at

that, for if he has such an advantage he should not give it to the consumer, but should make that much more profit for himself by adding to his costs these items. For example, the brick manufacturer who produces his own coal on his own property, would be foolish to charge his coal against his manufacturing at his cost of production. He naturally charges the coal at the market price in order to put his costs on a par with the manufacturer who must go on the open market and purchase his coal at prevailing prices.

Such lessee's wild selling prices have a distressing effect on the manufacturer who is incorporating these elements of cost. It is to be hoped, however, that our association work may develop to the extent that even such operators may be brought to see the light. Depreciation charges will naturally vary according to the individual plant conditions. From seven to ten per cent. kiln depreciation and five per cent. plant depreciation seem to be the average, that is where upkeep is charged to manufacturing costs. We must not forget, however, that depreciation does not only mean wear and tear, but in these days of inventive genius we are traveling a rapid pace in new development. Machinery and equipment which today seems efficient, might tomorrow be antiquated. Pyrometers are growing in favor, trucks are displacing teams, electrically operated trucks are displacing wheel barrows, time clocks are being installed, etc. In order, therefore, to keep abreast, we must install the new methods; labor-saving devices will also be in greater need. Therefore mere depreciation on a piece of equipment may not suffice, but entire displacement of equipment and replacement with more efficient and economic equipment. So much for depletion and depreciation.

INTEREST ON INVESTMENT

The matter of charging against costs an "Interest on Investment" charge has been a matter of argument for years. However, the best accountants of our country have finally come to the agreement that as far as cost of manufacture is concerned, that the charge should be made and therefore uniform cost systems thruout the leading industries contain this charge as well as a charge for interest on finished stock inventory, which will be discussed in the next division. These charges have been incorporated in the uniform system as outlined by Ernst & Ernst and adopted by the A. F. B. A. Quoting Ernst & Ernst, page 8, "Report on Cost Finding," stated thus:

"Having before us the particular ends it is your purpose to accomplish by the adoption of a uniform plan of cost finding in the brick industry, we assume the position that this item of interest on investment be considered a proper charge to the cost of manufacture in connection with face brick. In accordance with the determination to include in manufacturing costs, practically every item of expense incurred in the operation of brick manufacture, it follows that interest on bonded indebtedness will be considered as proper charges into the cost of production. In order that all concerns interested and operating in accordance with a uniform system of cost finding, may be placed on a uniform and equitable basis in the handling of interest charges, it seems to us imperative that interest computed on the total amount of capital invested in the fixed assets of each plant, should be included in the various items of expense, chargeable to manufacturing costs. It is understood that the fixed assets to which we have reference shall comprise the investment in plant, real estate, buildings, machinery and equipment, at the depreciated book value as represented in the books of accounting at the beginning of each fiscal period."

To illustrate that interest charged on the investment is justifiable as an element of cost, we cite the following: Suppose A has \$100,000 available cash. At first he intends to

erect a brick plant. However B, who already has a brick plant, comes to A and advises that he is desirous of enlarging his plant and desires to borrow the \$100,000 which A has available. The matter is agreed upon. Therefore before B can make any profit on the additional \$100,000 which he has invested he must first pay A an interest charge on the same. At the same time if A had embarked in the business for himself and had he made only an interest charge on his investment, his business enterprise would not have been considered very successful, for without the burden of carrying on the business he can loan his money to B and receive interest on same. It is therefore readily seen that from a standpoint of uniform cost accounting, it is justifiable for the manufacturer who does not have interest to pay on bonded indebtedness, borrowed money, etc., to charge in his manufacturing costs and interest charge on a par with the other manufacturer who necessarily is compelled to pay these interest charges.

INTEREST ON FINISHED STOCK INVENTORY

The next item of consideration is that of interest on fin-

ished stock inventory. We again quote Ernst & Ernst on page 8 in "Report on Cost Finding":

"We have observed that it is a common practice among brick manufacturers to negotiate bank loans which are variable in amount from time to time among different plants, in those periods during which conditions of trade make it necessary that a large quota of finished product be carried in stock. The amount of the loans negotiated by the individual concerns is governed largely by their financial status and the extent of their operations, and is not always in proportion to the inventory of finished product. Instead, therefore, of following the usual procedure in accordance with which interest charges on current loans would be carried into manufacturing expense, it is our purpose that interest will be computed on the cost valuation of the average monthly inventory of finished brick."

That pile of brick on the plant is the same as so much gold. We might load everything on the cars directly as burned, but for the benefit of our trade, in order to be able to make prompt shipments and have available the desired shades, etc., we carry for their benefit a stock of brick.

Divisions of Cost Accounting as Per Ernst & Ernst System

General Overhead Expenses.....	{	1. Office and Administrative Expense.
		2. Fixed Charges.
		3. General Expense.
		4. Power Generation Expense.
Departmental Manufacturing Expenses.....	{	5. Shale or Clay Mining and Transportation Exp.
		6. Processing and Machining Expense.
		7. Drying Expense.
		8. Transferring and Setting Expense.
		9. Burning Expense.
		10. Sorting and Drawing Expense.
Distribution Expenses.....	{	11. Rehandling Expense.
		12. Selling Expense.
		13. Promotion Expense.

Expense Distribution

1. Office and Administrative Expense (executive salaries, clerical salaries, office stationery and supplies, telephone, telegraph and postage, office rent, legal expense, undistributed expense).
2. Fixed Charges (insurance, interest on investment, interest on finished stock inventory, taxes, depreciation of plant and equipment).
3. General Expense (superintendence and factory clerical, general plant labor, stable expense, repairs to buildings, undistributed freight [incoming]).
4. Power Generation Expense (labor, fuel, purchased electric service, repairs to power plant equipment, lubricants and supplies).
5. Shale or Clay Mining and Transportation Expense (mine labor, power expense, explosives and supplies, mine equipment repairs, haulage [within mine], trainway maintenance, train car repairs, royalty or depletion).
6. Processing and Machining Expense (machine room labor, machine room repairs, column oil and supplies).
7. Drying Expense (fuel, dryer equipment repairs).
8. Transferring and Setting Expense (labor, power, sand used, transfer depreciation).
9. Burning (kiln labor, kiln fuel, kiln hauling, kiln repairs, kiln depreciation).
10. Sorting and Drawing Expense (drawing labor).
11. Rehandling Expense (rehandling labor, straw used, freight charges [outgoing], local delivery expense).
12. Selling Expense (salesmen's salaries and commissions, traveling expense, advertising expense, sample expense, miscellaneous expense).
13. Promotion Expense (association dues and assessments, convention expenses).

As quoted, Ernst & Ernst suggest the charge to be based on the average stock inventory according to each plant. We have found that the average inventory is about \$20,000.

With these items then incorporated in our system, it is a matter of uniformly dividing the rest of the manufacturing costs in order that intelligent departmental comparisons may be made for the good of the industry. Uniform cost accounting—why? Because of these reasons:

In the first place because uniform cost accounting has been adopted and recommended by the A. F. B. A., and it therefore behooves every manufacturer who has the well being of his association at heart, to proceed immediately with the working out of whatever progressive movement is inaugurated by his association, whether it be national publicity, uniform size, uniform accounting, or any other activity.

Secondly, because the brick industry is already far behind most industries of national scope in the matter of uniform cost accounting. Plumbing, brass goods manufacturers, the coffin industry, printing industry, the wire fence manufacturers and scores of others are already reaping the reward of uniform cost accounting. No time should therefore be lost in bringing the brick industry on a par with other industries, many of whom are of less national importance. Furthermore, the reconstruction period just ahead offers the very best opportunity for the consideration of uniform cost accounting in our industry.

Third, because it has been demonstrated that uniform cost accounting in an industry is not an impractical theory, but on the contrary will prove in our industry, as in others, one of the greatest factors in stabilizing the industry to the extent that a more justifiable profit may be evolved. I fully believe that if we are to secure a profit from our industry which will enable the internal improvement, research and national publicity previously referred to, that uniform cost accounting must first be adopted. The profit for this expansion must be made out of the industry. A combination to control and fix selling prices is illegal. It is therefore absolutely essential for us to know what our costs are, on which a selling price can be based, which will produce sufficient remuneration to allow for the expansion and progressiveness we hope to attain.

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Paving Brick Boosters Meet at Lincoln

Seldom in the history of the paving brick manufacturing industry has there been as representative a gathering of leaders in this field as recently met at Lincoln, Neb., to perfect plans for greater organization, thru territorial as-



In the Above Group May Be Found James R. Marker, J. W. Thurston, G. H. Reiter and Herbert Gardner.

sociations cooperating with the National Paving Brick Manufacturers' Association. A feature of the gathering was the inspection of brick roads in Lancaster County and



Among Those in This Group of Paving Brick Boosters are: Arthur R. Edgren, Will P. Blair, W. R. Schoonover, and Messrs. Reiter, Thurston, Perkins, Marker and Jackson.

Omaha. Later the group left for Kansas City, Mo., where the formal meeting was held.

Among the celebrities present were: James R. Marker, secretary and chief engineer, the Ohio Paving Brick Manufacturers' Association, Columbus; J. W. Thurston, secretary, the Western Paving Brick Manufacturers' Association; G. H. Reiter, manager, the Illinois Paving Brick Manufacturers' Association; Herbert Gardner, the Purington Paving Brick Co., Galesburg, Ill.; W. C. Perkins, chief engineer and secretary, the Eastern Paving Brick Manufacturers' Association; Arthur R. Edgren, county engineer, Lancaster County, Neb.; Will P. Blair, the National Paving Brick Manufacturers' Association and W. R. Schoonover, manager, the Indiana Paving Brick Manufacturers' Association.

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Nebraska Clay Manufacturers to Meet

On the day that this issue goes to press, April 8, the Nebraska Brick and Tile Association is holding a meeting at the Clarke Hotel, Hastings, Neb., at which all plant owners of the state of Nebraska were urged to attend regardless of whether or not they are members of the association. The main purpose of the meeting is to take final action on the open price exchange which was unanimously adopted at the annual convention of the Nebraska Brick and Tile Association held at Lincoln recently.

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Making Rough Textured Dry Press Brick

An announcement has been received at this office stating that a device has been perfected which can be attached to any dry press brick machine and which will manufacture rough texture brick. The machine is manufactured by a firm in St. Louis, Mo. and it is claimed that it has been tried out and found successful.

No changes in method of manufacturing, burning, kind of clays used, nor machines are required and all that is needed is to attach the device to the same dry press machine that is already in use and manufacture rough texture brick.

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A preliminary certificate of dissolution has been filed by the Riggs Clay Products Co., of Sullivan, Ind.

HOW *the* DEALER *can* BEST SERVE *the* MANUFACTURER

Regardless of Whether You Favor the Dealer or Not, Regardless of Whether You Use Him in Your Scheme of Distribution or Not—Do Not Fail to Read This; One of the Most Able Presentations of the Manufacturer-Dealer Problem That Has Ever Been Written

By B. W. Ballou

*of the Kansas Buff Brick & Mfg. Co., Buffville, Kan. Read Before
the Seventh Annual Meeting of the Face Brick
Dealers Association of America*

I WANT TO SAY FIRST, that I believe in the legitimate face brick dealer. I believe he has a place in the organization of the brick industry. There is some question as to what that place is, but I thoroly believe that he has a place in the manufacturing and marketing of face brick. I believe he ought to be thoroly organized along proper lines. I believe in the dealer who puts his money into the business and makes it *his* business, not only to make something out of the proposition, but to take pride in representing fully and honestly the plant that he represents.

Many dealers are interested on account of the commission they make, alone. We call them little brokers, whose only business is to make a little profit on this particular job and I hope the time will come when the Face Brick Dealers' Association of America will mean so much that a man who does not want to play the game square, that does not want to be fair to his competitor, that does not want to represent the product properly, will find no place in that organization.

MANUFACTURER AND DEALER SHOULD BE CLOSER

Another matter that I want to present is: I believe something ought to be done on the part of both the manufacturer and the dealer to bring them nearer together. You (the dealer) are one of the arms of the industry. We (the manufacturers) have entrusted to you the most important part of our business—that is in going out and finding a market and representing us. Sometimes you have represented us properly, and sometimes you have not, but I believe there ought to be a very fixed set of rules governing the dealer and the manufacturer and I believe that these meetings, instead of having separate organizations and fooling around the lobbies all the time, ought to get together as one great body and I hope that time will soon come.

We appreciate, I believe, that we are engaged in the most chaotic business imaginable. There are no fixed standards by which we manufacture and sell brick. A man does not know anything about the brick business and were you to ask him how he manufactures and sells brick, he would not know how to tell you.

As a rule, a man gets in the brick business because he has it wished on him and everyone thinks he can make the best brick and the prettiest brick and he is undecided

as to whether to sell it thru the dealer, thru the lumber yards or market it himself or what, and he goes every which way. I hope the time will come when there will be an unwritten law, recognized standards by which plants will manufacture and market this material.

We have different methods of handling all over the country and I would like to see it standardized along



B. W. BALLOU

the lines of finding a place for the legitimate and high-grade dealers.

The great trouble has been, you know, that we do not have a clear understanding between the manufacturer and the dealer. This is the fault of both the dealer and the manufacturer. I am frank to say that if I were to undertake the job, I would rather try to organize the dealers than a lot of manufacturers. Few of you appreciate and

know what a time we are having now to get the face brick industry thoroly organized. I think if you could appreciate the job we have on our hands you would probably have a little more patience now and then with the individual manufacturer.

Do not judge all the manufacturers by the mistakes these fellows make. We know you have "kicks" and we have "kicks," too. There are many troubles that come up that ought to be "ironed out" without any ado, with no misunderstandings or hard feelings and we simply get together at these annual meetings and have a clear understanding and get the other fellow's viewpoint.

VISIT THE PLANT FIRST

You ask what you can do to assist the manufacturer. I am going to suggest a few little things that may be of great help. If I were a dealer I think I would not want to undertake to represent any manufacturer until I first made a visit to that plant and thoroly familiarized myself with the product he manufactures. Too many of you are making a mistake in asking for three key samples. You do not know whether that plant can furnish you with that material or not. You ought to go down, before you pick out a line, and meet the people at the plant, get acquainted with the superintendent and be sure to get acquainted with the loading foreman, and know exactly what that plant's production is and the facilities for manufacturing the brick. If you will do this, I think it will eliminate 50 per cent. of the trouble you have in shipments and the quality and kind of brick you are getting.

It will enable you to have in mind the facilities back of you for serving the job so you can fairly and honestly represent the plant whose line you are taking on.

HAVE UNDERSTANDING REGARDING TERRITORY

Then, when you go down to see this fellow and make arrangements to sell his brick, the next important thing to do is to have a very definite idea of your territory. I dare say half the trouble you have heard of since you have been here is about some misunderstanding regarding your territory. This is your territory, and this is open territory. They ship a car of brick down there. Who gets the commission on it? If I did not sell it, who did sell it? The dealer who serves the manufacturer properly should have a definite understanding, insist on the manufacturer giving you your territory absolutely. If you do that, you will eliminate a great deal of the trouble you are having now. It will assist you in getting a closer organization with your competitors and with the manufacturer you represent.

CLAY MEN NOT ORGANIZED

Now, all of our efforts as manufacturers and as dealers along the line of organization are simply the preliminaries or the A B C's of an organization. Those of us who are together and work together and "double cross" each other

think we are organized. Well, we are not organized. When that body of men was gathered together to go over and lick the Germans, they were not organized at first. To do efficient work they had to be organized to fight the common enemy.

The organizations that we have now are only to keep us from fighting each other—we are not doing anything to promote the use of brick. We are simply trying to decide what is a fair and equitable division of the business already created and we are not doing anything toward creating more business.

I am reminded of a man crossing over to Europe. On the boat he said: "I have been robbed of \$500." The captain said: "What's the difference? It's on the boat, it can't get away." And that is the way we feel about it. I hope the time will come when we will get thru with the A B C's of organization. We are about twenty-five years behind cement, lumber and other materials now.

Those of you who went down to Washington to get business did not get any. I recall I went down there and they got us in a room to look us over. They did not know what the industry was—and we have one of the greatest industries on the globe.

Your work here at this convention ought to be, not getting your little differences settled up, not trying to find out what the other fellow is doing—it ought to be to devise ways and means of increasing your business or your brother's business.

I was at a meeting a few days ago and a man, who talked like a German, was talking about advertising propaganda and he said: "I don't care to advertise. I sell all the brick I can make." And I said: "Aren't you interested in your neighbor over there selling more brick?" And he said: "No, he runs his own business and I run mine." That is the type of a great many plants we have to deal with. That man was not far sighted enough to know that the time is coming when your business is going to be less and less every year and if the same number of you stay in business and do not increase the use of brick, you will fight worse every year.

URGE MANUFACTURER TO SIGN AGREEMENT

Now, there is one matter I want to bring before you this afternoon, and that is this: The American Face Brick Association is trying to raise a fund for advertising purposes. The common brick people are trying to do the same thing. We realize what it means to drift along as we are doing now. We want you to help us put that campaign over. We do not want you to contribute anything, but we want you to go to those plants that you represent and encourage them to sign up a contract. It will mean a great deal to us and just as much to you. We want you to hook in with us there and help us on this proposition and I hope that next year, even at that time, we can be getting the fruits of that campaign.



PROSPECTS *of* FREE BUILDING MOVEMENT REMOTE *in the* EAST

CURRENT CONDITIONS in the building industry have set back the era of lower rents at least a year, according to the Dow Service Daily Building Reports of March 31.

Only forty per cent. of the normal volume of building

construction is moving to contract in the metropolitan district of New York, today in the face of a 133 per cent. demand for new construction in New York city alone. Investors say they are waiting for the price of building materials to come down, but the main reason for continued

delay expressed by those anxious to alleviate the conditions of under supply of rentable space in this section of the country is that they are almost totally unable to obtain temporary loans. Adjustments in this respect are under contemplation and some progress has been made, but a workable basis probably will not be arrived at until some time after the completion of the Victory Loan drive, by which time it will be too late to permit the volume of construction to proceed that will have any important effect in meeting the demand for rentable space sufficiently to check the upward movement of rents or the longevity of leases.

CHEAP LABOR LEAVING OUR SHORES

General conditions in the building market today are more favorable to the big building interests than to the small ones. The constant propaganda being issued to the general public that building material prices will be forced down by the Government is encouraging delay and causing hesitation among those who would otherwise proceed to build at once, while cheap unskilled labor that represents a large factor in the production of all kinds of building materials, is leaving these shores at the rate of a thousand a week from the port of New York alone. The large investor is fully aware of these conditions and is pushing his project today with all speed, regardless of costs, while both labor and materials are cheap as compared with what they will be next year and the year after that. Active building operations in almost all parts of the country today are those representing large financial interests, for the most part, rather than the individual with a moderate savings account or the modest building corporation. The latter is identified with alteration work and remodeling.

As a means of effecting this increasing belief that the Government will immediately force a general reduction in the price of building materials, as it did in structural steel, the Industrial Board of the Department of Commerce has considered the propriety of not announcing any more price changes until its work has been completed. The hesitancy that played havoc with the general buying market owing to the expectation that there was to be a great drop in the price of steel, if encouraged in all building commodities, would possibly have the effect of paralyzing building construction for the major part of the year.

The Dow Service Daily Building Reports was advised on March 29, however, in order to quench the general expectation of a reduction in mill prices for Portland cement that the present mill price level of \$1.90 a barrel, for the same supplying this market, was not to be changed and that the present 25 cents rebate on empty bags would not be disturbed for thirty days. The manufacturers' new price on jute plaster sacks effective a month ago becomes operative on the general market delivered price of various plasters tomorrow when neat (Correct) wall cement in cloth bags will be \$20.30 a ton; lath mortar, \$15.05; brown mortar also at \$15.05; finishing plaster at \$24 a ton, with a rebate on bags at fifteen cents instead of thirty cents.

POSSIBLE ADVANCE IN COMMON BRICK PRICE

To accentuate the situation still further the entire New York building industry faces a still further delay in full construction work with possible attendant price advances of common brick. The brick barge men, operating separately from the union harbor boatmen, have insisted upon the recognition of the eight-hour work day, a new charge for trimming and watching, loading and unloading and have threatened to stop work if their demands are not met. Brick manufacturers say that if these concessions are given the men very sharp advances in the price of common brick will result. There is practically no unsold

brick on the wholesale market here now and the dealers have possibly eleven million brick in their yards, barely enough for ten days' supply. Incidentally the dealers of New York, owing to the harbor strike, have only about ten days' supply of cement on hand and are riding it from cars on the New Jersey side of the river. This is true also of several other basic building commodities.

The prospects of a free building movement until it is firmly established that temporary building loans can be freely obtained are decidedly remote, and without a free construction market the increasing demand is not only making for higher rents and longer leases, but also for higher costs of construction and higher costs for the production of building materials. The question of building costs is rapidly passing from that of size of the pay envelope that is handed to the skilled artisan on the building job, but rather to finding the man who will accept the pay of the departing alien laborer whose willingness to work at low pay made it possible for the investing builder to put up his structure cheaper in New York than anywhere else in the country.

* * *

Mitchell Now With "Bill" Fay

Plans for expansion in all lines of materials it handles, but particularly in the clay products division, are contemplated by the Cuyahoga Builders' Supply Co., Cleveland, Ohio. Foremost among the plans will be the addition and rearrangement of display rooms for the use of



ROBERT C. MITCHELL

prospective brick customers. These rooms are being prepared under the direction of Robert C. Mitchell, formerly sales manager of the Farr Brick Co., now manager of the brick and allied products department of the Cuyahoga. These preparations are being made behind closed doors, so it is taken for granted that "Bob" will spring something out of the ordinary when the rooms are opened to the public. Even J. F. Leonard, general sales manager of the Cuyahoga does not know just what "Bob" has up his sleeve in this particular, but he points

to his past performances in any form of advertising that has to do with the pushing of brick sales, "and that, we believe, is 'nuf sed,'" reports the satisfied Mr. Leonard.

Among the conspicuous accomplishments of the brick department under the management of Mr. Mitchell is the closing of the contract for the face brick for the new Cleveland Automobile Co.'s plant, now in course of construction to the east of Cleveland, and said to involve 100,000 face brick alone. A feature of this work is that it is one of the biggest recent jobs in which Brixment will be used. This material also will be used in display purposes for the first time in the construction of the new display rooms at the Cuyahoga. The Cuyahoga is the representative of this material in this district. Incidentally F. G. Kemp, special representative of the Louisville Cement Co., producers of this material, is making the Cuyahoga Builders' Supply Co. his headquarters while in this territory.

Edward Brash, formerly of the Hydraulic-Press Brick Co., has been appointed by Sales Manager Leonard for special work in the service department of the Cuyahoga. Dwight Walker, formerly of the sales department of this organization, is expected back with the 37th Division, in which he served over seas during the war, and will resume his old work with the firm. Arthur Shalosky, who also saw active war service, is back with the auditing department of the company.

"March figures show that business with us at least, is 40 per cent. better for the month than it was in February," says Mr. Leonard. "We believe this is the beginning of the long expected revival of building activity in this district, and are laying our plans accordingly."

* * *

Death Takes Prominent Face Brick Man

March 22nd marked the passing of one of the best known face brick men of the state and entire section in the death of Isaac H. Tyler, of the R. B. Tyler Co., Louisville, Ky., who has long held the reputation of being the leading face brick salesman of the city. Mr. Tyler died of pneumonia, following an illness of just one week. He was just past forty years of age at the time he became ill. Mr. Tyler was also second vice-president of the Kentucky Clay Products Association, and a member of the board of directors of that organization. Few men in the brick industry have been better known than Mr. Tyler. Mr. Tyler is survived by a bride of only a few months.

* * *

Refractories Co. Announces Cut in Prices

A prominent fire brick manufacturer in Pennsylvania has sent the following letter to users of fire brick generally thruout the country:

"This is to advise you that we have made a substantial reduction in the price of our high duty fire brick and clay. This is made to conform to recent reduction in the price of iron and steel as arranged in price agreement between the United States Government officials and the steel producers in conference at Washington on March 19.

"In view of the fact that we have made no reductions in our wage scale since the signing of the armistice and that this is the second cut made in our prices since that time, it is certain no further reduction can be expected until lower wages are reached.

"It is fair to assume wages will not be lowered for a year

or more, at least, and, therefore, it must be evident that 'the bottom' has been reached for a long time and future changes in price will be upward—not downward.

"It is almost certain that the market prices of refractories are stabilized by these facts and buyers generally are urged to place their orders now for their needs. Further waiting will not bring lower prices and purchasers may have to pay higher prices later in the season by reason of vast improvement in business and the small margin of profit at the new schedule.

"We feel safe in assuring you that now is the time to buy fire brick and clay because you will not save anything by waiting.

"We are prepared to give you the lowest market price on standard grades and promise our best service and attention to any orders entrusted to our care.

"We solicit your inquiries and hope you will give us a chance to quote on your needs in our line."

* * *

Distribution of Fire Brick Exports

Considering the exports of fire brick during the past year as referred to in the March 25 issue of *Brick and Clay Record*, it is interesting to note that the distribution of the entire quantity noted, 108,363,000, to the value of \$4,770,842, was made as follows: Europe, 3,215,000, value, \$322,790; North America, 101,568,000, value, \$4,079,830; South America, 2,816,000, value, \$330,175; Asia, 640,000, value, \$30,780; and Oceania, 124,000, value \$8,267.

From advance figures tabulated by the Department of Commerce, it is shown that the distribution in these various countries of American fire brick was as follows:

EUROPE		
	Quantity M	Value
France	1,303	\$124,982
Italy	1,745	177,866
Russia (in Eurpoe)	4	206
Spain	135	17,024
England	10	1,884
Scotland	18	828
NORTH AMERICA		
British Honduras	2	100
Canada	87,467	3,367,932
Costa Rica	14	746
Guatamala	17	1,666
Honduras	55	1,211
Nicaragua	18	1,231
Panama	90	6,726
Salvador	5	319
Mexico	5,230	244,049
Newfoundland	1	71
Jamaica	10	801
Trinidad and Tobago	40	1,833
British West Indies (Misc.)	96	2,537
Cuba	6,985	377,835
Danish West Indies	24	600
The Dominican Republic	1,007	50,427
The Dutch West Indies	188	2,711
French West Indies	15	980
Haiti	304	17,055
SOUTH AMERICA		
Argentine	449	29,317
Bolivia	4	1,009
Brazil	115	8,873
Chile	1,245	120,692
Columbia	10	585
Equador	61	4,421
British Guiana	79	6,397
Dutch Guiana	6	441
Peru	711	153,706
Uruguay	96	2,017
Venzuela	40	2,718
ASIA		
China	14	759
Chosen	8	1,447
British East Indies	416	12,480
Dutch East Indies	11	1,548
Hongkong	60	3,161
Japan	131	11,385
OCEANIA		
British Australia	15	1,802
French Australia	13	1,113
German Australia	2	150
Philippine Islands	94	5,202
	108,363	\$4,770,842

F A R N O R T H W E S T to ORGANIZE PERMANENTLY

Northwestern Clay Products Manufacturers' Association Holds Meeting at Seattle, February 27—Decides to Perpetuate Present Organization, Which Was Originally Formed as War Measure

THE SECOND ANNUAL MEETING of the Northwestern Clay Products Manufacturers' Association was held on February 27, 1919, at the Pacific Northwest Station of the United States Bureau of Mines, University of Washington, Seattle.

The meeting was called to order at 10 a. m. by President John F. Keenan, of the Denny Renton Clay & Coal Co., and Ira A. Williams was appointed to serve as temporary secretary of the association. The minutes of the first meeting of the organization, held at Seattle, July 22, 1918, were read by the secretary and approved.

President Keenan stated that one of the main reasons for calling this meeting was to consider and enlist the interest of all Pacific-Northwest clay products manufacturers in the support of the ceramic work now being taken up in the University of Washington, in cooperation with the Northwest Station of the United States Bureau of Mines.

PRESENT ORGANIZATION TO BE CONTINUED

There was some discussion of the advisability of perpetuating the present association, which was originally formed as a war measure, or of organizing a new one of less scope. It was decided that, inasmuch as the states now represented in the association are essentially those that would naturally look to the Northwest Station and the University of Washington for assistance, the present organization be continued under the same name, and its field and activities extended and developed in any direction to further the use, improve the quality or aid in solving the problems met in the manufacture of clay products in the Pacific-Northwest states.

A motion was made by Mr. Armstrong that the association go on record as heartily in favor of the development of a Department of Ceramics in the University of Washington, and the promotion of investigational work in conjunction with the United States Bureau of Mines, Northwest Station; and of offering its assistance and cooperation as a body and as individuals in every possible way. The motion was seconded.

A noon recess was declared, and the convention reassembled at two o'clock. In relation to the above motion, Dean Milnor Roberts, of the College of Mines, stated at some length the purpose and desires of the university in developing the ceramic work, and discussed optimistically the support, in the way of space and equipment, which could reasonably be expected from the university.

USE OF POWDERED COAL DISCUSSED

F. K. Ovitz, superintendent of the United States Bureau of Mines Northwest Station, expressed a thoro appreciation of the importance of the clay industry, outlined the method and plans for carrying on cooperative work with the university and gave strong assurance of the bureau's intention to promote in every possible way the ceramic investigational work.

Mr. Ovitz also discussed to some extent the use of powdered coal in industrial furnaces.

In referring to the work of the United States Bureau of Mines Ceramic Station at Columbus, Ohio, Ira A. Williams, ceramist in the Bureau of Mines, stated that the proposed ceramic work to be carried on in the State of Washington would necessarily be done in close relation with this station and that the facilities of the Columbus laboratories and the assistance of the chief ceramist and his staff will be available whenever it is desired to make use of them on Pacific-Northwest problems. Mr. Williams outlined the proposed equipment for investigational work and for instructional purposes in the university. Some of this equipment is already purchased and will be installed as soon as possible. As important problems worthy of prompt attention when the laboratory facilities are ready, the search for and determination of the qualities of high-grade clays not now in use was mentioned, the improvement, by removal of impurities, of fire clays at present in use, and the making of standard tests of finished products. The importance of studying the magnesite of eastern Washington with a view to developing further uses for it as a refractory material, and of locating suitable deposits of foundry and glass sands, was also emphasized.

Dr. H. K. Benson of the Department of Industrial Chemistry in the University spoke of ceramic problems which had been submitted to his department in the past and cited various matters in which the new Department of Ceramics can be of service to the clay industry.

The original motion in support and encouragement of the ceramic work was then put before the meeting and carried unanimously.

ROSTER OF MEETING

Those in attendance and the firms represented are as follows:

F. T. Houlahan, Builders Brick Co., Seattle, Wash.
Frank Lohse, Lohse Brick Co., Seattle, Wash.
J. B. Watson, Idaho Fire Brick Co., Troy, Idaho.
H. R. Kreitzer, Denison Interlocking Tile Corp., Seattle, Wash.
M. L. Bryan, Denny Renton Clay & Coal Co., Seattle, Wash.
B. F. Cake, Denny Renton Clay & Coal Co., Seattle, Wash.
J. W. Knapp, Knapp Brick & Tile Co., Mt. Vernon, Wash.
A. H. Wetherby, Jr., Standard Brick & Tile Co., Portland, Ore.
and the Butte Sewer Pipe & Tile Co., Butte, Mont.
A. G. Craig, Far West Clay Co., Tacoma, Wash.
C. B. Mayburgh, Star Brick & Tile Plant, Bayview, Wash.
John F. Keenan, Denny Renton Clay & Coal Co., Seattle, Wash.
Albert Armstrong, Denison Interlocking Tile Corp., Seattle, Wash., and the Moscow Fire Brick & C. P. Co., Moscow, Ida.

EVENING PROGRAM INTERESTING

The afternoon session adjourned to convene again for a dinner at 6:30 at the University Faculty Club.

Following the dinner, which was attended also by Superintendent Ovitz and by Dean Roberts, Professors Corey, Williams and Saunders of the university faculty, informal talks were made by various members of the organization.

President Henry Suzzalle welcomed the clayworkers and expressed his desire that every possible use should be made of the university of its facilities by the clay industry.

Dean Henry Landes, who is also director of the State Geological Survey, spoke of the plans of the State Survey for doing field work on clays and other ceramic materials the coming season.

Dean Milnor Roberts exhibited and explained a series of slides illustrating trams and of types of drilling equipment such as can be employed in various kinds of prospecting work.

The convention adjourned, subject to call for further meetings by the President of the Association.

* * *

Hydraulic Makes Cut to Stimulate Activity

In recognition of the desire of the President to bring about a reduction of prices thruout the country, the Hydraulic-Press Brick Co., St. Louis, Mo., has made a reduction in the price of common and face brick for the St. Louis market. Cost of production has not decreased, it was stated at the offices of the company, but the reduction was made in order to stimulate business activity and to restore normal business conditions.

For the current season the cut in the price of the average run of common brick is ten per cent., which means a reduction of 15 per cent. on common brick as delivered for apartments, flats and residences. Face brick both matt and pressed, is reduced 15 per cent. as delivered.

It was said by officers of the company that no material reduction below these figures will occur for a long time, if ever, and that the buyer will only lose by delay, as prices "can never return to prewar levels, if for no other reason than that of wages, which everyone feels will not decline."

* * *

C. N. C. P. A. Has Excellent Papers in Store

An excellent program has been prepared for the convention of the Canadian National Clay Products Association, in Montreal, Que., May 26, 27 and 28. Some of the papers to be read are as follows:

"Why Freight Rates Are as They Are and How Made," by Jas. E. Walsh, general manager of the Canadian Manufacturers' Association;

"Transportation of Clay Products," by Millard F. Gibson, general manager of the National Fire Proofing Co.;

"Tests to Determine the Strength of Brick," by W. W. Pearse, city architect, Toronto;

"Use of Fire Brick in the Street and Clay Products Industries;"

"Sewer Pipe Investigations," by A. G. Dalzell;

"Railroad Kilns," by Conrad Dressler, New York;

"Steam Shovel Comparisons," by Wm. Burgess, superintendent of the Don Valley Brick Works;

"Motor Trucks in the Clay Products Business," by Chas. Harrison and Horace Harpham;

"Burning of Carbonaceous Clays," by Joseph Keele, chief engineer of the Ceramic Department, Mines Branch, Ottawa.

H. H. Hallatt, Tilbury, will report on the work of the Tile Committee and M. F. Gibson, Toronto, will report for the Technical Education Committee.

The social features are being looked after by the Montreal

committee of which L. W. McArthur, 199 Prudhomme Ave., Montreal is chairman.

* * *

Canadian Government to Aid in Road Building

A very great impetus was given the good-roads movement in Canada at a banquet under the auspices of the Eastern Ontario Good Roads Association on February 4 at Ottawa. Many of the most influential promoters and those interested in good roads in the Province of Ontario were present, but the outstanding feature of the meeting was the fact that the Dominion government, thru the Hon. Dr. Reid, minister of railways and canals, was present to tell something regarding what the federal government, by legislation, intends to do at the next session of Parliament.

The Eastern Ontario Good Roads Association came into being about a year ago on account of the growing sentiment that eastern Ontario must build permanent good roads. The president of the association stated that "we have produced and developed a good-roads system comprising 500 miles, of which 195 miles are provincial highways of the highest class; and, secondly, we have over 300 miles of good country roads, and as far as eastern Ontario is concerned these are the roads we desire to have completed first."

Dr. Reid stated that when the government decided to take up the question of good roads seriously he had to organize a good-roads branch in his department, which is known as the "Dominion Highway Department." The minister further stated that in the Dominion there are 250,000 miles of roads. The so-called first-class roads are between large centers and large markets, roads traveled most by the public, urban and suburban, and they should be of a permanent character. There are of this class about 10,000 miles in Canada. He referred to second-class roads and also stated that there were 200,000 miles of concession roads leading from farms to first-class roads.

Regarding first-class roads, it is the intention of the government to contribute a reasonable amount toward the cost of construction; this applies to the 10,000 miles above referred to. A bill has been drawn and is before a subcommittee of the council to place an amount of money, as the Dominion's share, of as much as can be possibly expended in the next five years by the several Provinces.

The government has an estimate of what the Provinces can spend in five years and will set an amount to be expended over a period of five years, so that every Province will know that it has the Dominion government's share available for all the roads they can build. If the estimate falls short on account of the large number of roads being built by any Province, the Dominion grant can be supplemented. Altho it has been reported that 40 per cent. of the cost of 10,000 miles would be borne by the government, there is nothing definite as to the amount the bill will carry, but it can be stated that the appropriation will be of a substantial amount.

The actual construction is to be done by the Provinces, but the plans for the improvements are to be submitted to and approved by officers of the Dominion government.

Senator Robertson, the minister of labor, who also addressed the meeting, referred to the problems of settling returned soldiers on farms and remarked that everything possible should be done to make the agricultural districts of easy access to rural centers.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

MAKING STONEWARE ARTICLES



ALTHOUGH A CHANGE of habit on the part of the American people will occur, starting with July 1, with an accompanying decrease in demand for a certain kind of stoneware article, this fact does not bother the manufacturers of that particular article any, because they claim they will have plenty of business in other lines of ware to keep themselves occupied.

The Buckeye Pottery Co., of Macomb, Ill., is one of these plants where the manufacture of stoneware is going on without interruption. This firm claims that there will be an advantage in not making jugs any more, because other ware is so much easier fabricated and set into the kilns. At the present time various assortments of jars, jugs and crocks are being made at this factory. The size of ware made varies from small pieces to large crocks of ten gallons, and even larger capacity.

The fire clay used at this pottery is imported from Colchester, Ill., which is just ten miles from Macomb. It is dumped upon a belt conveyor, which carries it to a long conveyor with about three hundred feet distance between the two end pulleys. A tripper deposits the clay at the point desired. The clays are given an opportunity to weather a little before being used in preparation of the bodies.

The washing process is very much similar to that used in the whiteware industry; the clays first going to a blunger, then over a screen, and finally filter pressed. After storing the clay in a damp cellar for a short period it is distributed to the men, who jigger the ware. This is done in regular pottery fashion, using plaster molds. The ware is allowed to remain in the molds for twenty-four hours, during which time they are set in a dryer heated by steam pipes, after which the ware is taken out of the molds and set on shelves for another twenty-four hours' drying period. The dryer is kept at a temperature of about 130 deg. Fahr. during the evening.

When the ware has been completely dried it is brought to the dipping department, where the glaze is applied by whirling the large jar in a trough, which contains the glaze in a milky solution. If the ware is not completely dried trouble is often had in misshaped or broken pieces.

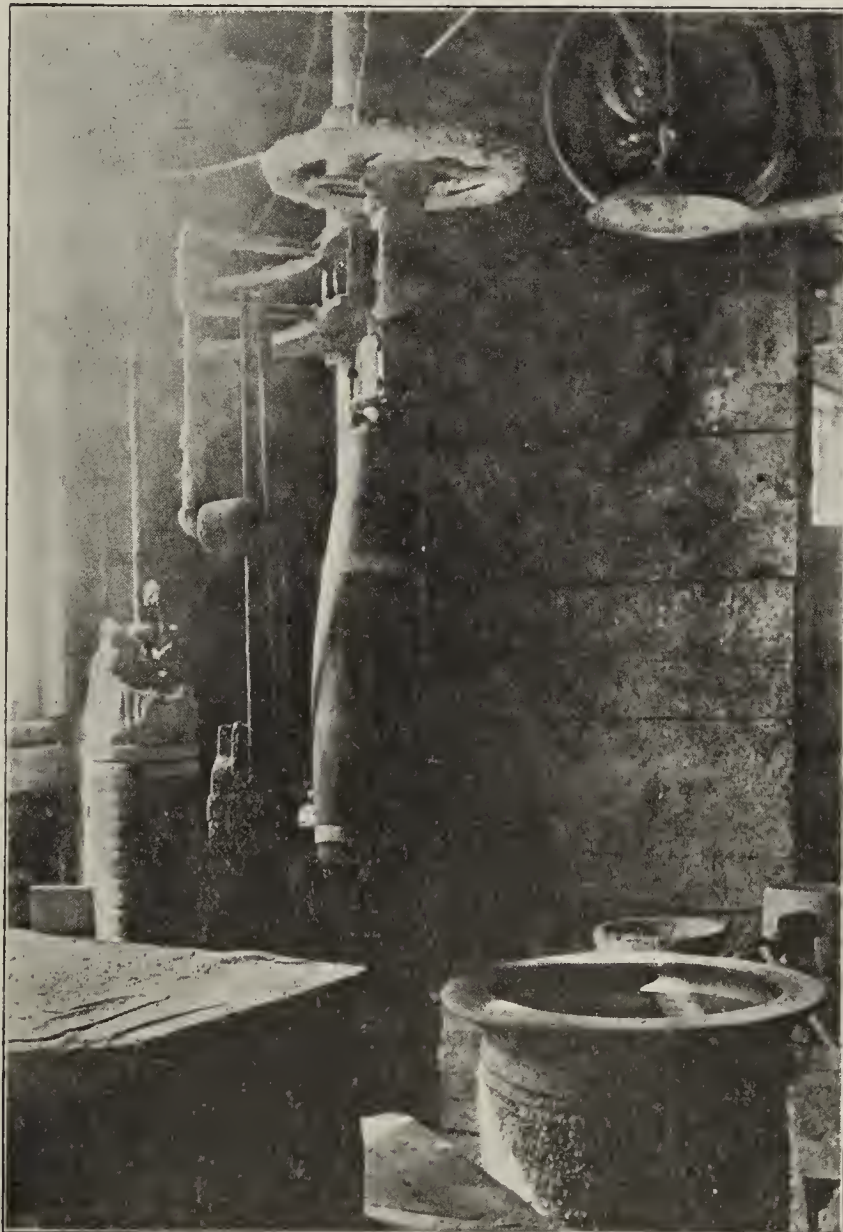
The stoneware pieces are set in round down-draft kilns

of about thirty feet diameter. A circular bag wall extends all around the interior of the kiln. Ten dead bottom fire boxes are built on each kiln. The floor is of an open bottom type. Test pieces are placed on top of the ware at the top of the kiln, which can be drawn out by means of a hook at certain intervals.



Feldspar—An Important Pottery Ingredient

The success which a potter attains is greatly dependent upon the ingredients and their proportion, which he uses. Of these, feldspar is probably one of the most important. The clays used are, fortunately, from districts having extensive supplies which vary only slightly, and the flint is obtainable in equally uniform quality and great quantity. The feldspar, however, is obtained from igneous intrusions of very irregular structure, and the material mined must be carefully sorted in order to obtain the class of product desired.



Machine Used for Jollying Large Stoneware Crocks and Jugs.

Feldspar or felspar is a mineral of a number of varieties having the general formula $RO \cdot Al_2O_3 \cdot 6SiO_2$, the base RO being potash, soda, lime, magnesia, or any combination of these in any proportion, so long as the total bases are equivalent to the alumina and silica in the formula. Its color varies from white or pale gray to drab and light red; the pink variety being in most demand.

On exposure to the weather feldspars slowly decompose, the alkalis being washed away together with some of the silica, and kaolin or clay is sometimes formed.

Orthoclase or potash feldspar is the most important of the varieties, the microcline, albite, oligoclase, labradorite, andesite, anorthite, and sodalite also occur in considerable quantities. They occur in a relatively pure state in isolated masses and dikes in granitic rocks, in which they constitute the larger and softer crystals, but most frequently with quartz, mica, etc., in granites and porphyries. In a less crystalline form they occur in trap and other rocks.

THE MORE COMMON FELDSPARS

Orthoclase is a feldspar essentially of potassium aluminum silicate ($K_2O \cdot Al_2O_3 \cdot 6SiO_2$) but usually contains two to eight per cent. of lime and soda in place of some of the potash. According to one authority, magnesia and iron cannot replace the base in true feldspars, so that when present they indicate the existence of other minerals as impurities in the feldspars. Its color is white, or, if sufficient iron is present, reddish. When heated to 1,300 deg. C. it melts to a white enamel-like mass—and at a higher temperature it fuses to a fairly clear glass. When finely powdered and soaked in water, the latter becomes distinctly alkaline. Commercial feldspar is more fusible than pure orthoclase due to the fact that mixtures of different feldspars are more fusible than any one of them taken separately.

There are several varieties of orthoclase, such as adular (moonstone), pegmatolite, sanidine (vitreous feldspar), and eisspar (rhyakolite), but they all have the same chemical composition. Varying quantities of impurities occur, but the average composition of orthoclase is—silica, 65 per cent.; alumina, 18 per cent.; potash, 16 per cent.; and other matter, 1 per cent.

Albite is the soda feldspar of the molecular formula of $Na_2O \cdot Al_2O_3 \cdot 6SiO_2$. The percentage composition is sodium oxide, 11.8 per cent.; alumina, 19.4 per cent.; and silica, 68.8 per cent. Its color is generally white altho it may be reddish, greenish, bluish or gray. The sodium oxide in albite may be replaced by calcium oxide in amounts less than three per cent., however, the mineral is classified as a lime-soda feldspar, of which there are now recognized a series of members between pure albite and pure anorthite. These form the plagioclase subgroup.

Anorthite is a lime feldspar having the molecular formula of $CaO_2 \cdot Al_2O_3 \cdot 2SiO_2$. Its percentage composition is calcium oxide, 20.1 per cent.; alumina, 36.62 per cent.; silica, 43.28 per cent. The color of anorthite varies, being white, grayish, or reddish. The calcium oxide in anorthite may be replaced by sodium oxide by amounts not exceeding 1.6 per cent. When the soda content exceeds 1.6 per cent. however, the feldspar becomes one of the plagioclase subgroup.

IMPORTANT FACTS ABOUT FELDSPAR

The feldspar which is used by potters for bodies is approximately a pure orthoclase, but usually several per cent. of soda replaces a portion of the potash. A high soda feldspar is objected to on the ground that ware made from it has a dull sound. Experiment shows that ware made from soda feldspar may have as much strength as that made of potash feldspar which has a harder sound. Mix-

tures of soda and potash feldspar have a lower melting point than the pure potash spar. Such mixtures are more in favor for glazes than for bodies.

Feldspar is the constituent which cements the body of ware together at high temperatures. It is considered as a neutral body flux. This means that its fluxing effect is additive, it being a solvent of clay substance and free silica. It is a matter of great importance at what temperature that action begins and how rapid it proceeds for clay wares are most successfully burned when the vitrification is a gradual process extending over a considerable temperature range. Feldspar of all pottery material is the one which it is most desirable to obtain a chemical analysis of. If we have a low melting potash feldspar we do not know whether its softness is due to first, mechanically admixed soda feldspar; second, soda feldspar crystallized with the potash feldspar; third, potash feldspar with mechanically admixed quartz; or fourth, potash feldspar crystallized with an unusually high amount of silica.

The more finely ground the feldspar is, the more uniform will be its distribution in the body and the larger area it will produce fluxing action on. If the material is coarse grained it will have to flow and reach the grains of quartz in order that it will melt together but if fine grained it will melt nicely in place. It follows then that fine ground feldspar requires less time to flux, that a body thus does not approach so near a fusion, its articles no less disturbed and the warping and bending noticeably reduced.

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Merger of Austrian Pottery Factories

Information has been received of the recent formation of the Oesterreichische Porzellanindustrie A. G. ("Oepiag") at Carlsbad, Bohemia. This firm has bought and combined the following factories, whose goods before the war were so well known to the American trade: Springer & Co., at Elbogen; Proeschaldt & Co., at Dallwitz; Fischer & Mieg, at Pirkenhammer; and Guther Bro., at Altrolan. The plans of the "Oepiag" include the purchase of two additional factories.

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General activity in the domestic pottery industry continues, but new business with the sanitary pottery manufacturers is not at all brisk at this time on account of the dullness in the building line. The electric porcelain manufacturers report slightly increased orders, and these plants are operating on better schedules, generally speaking, than a month ago. Concerning the general ware branch of the trade, orders continue to keep ahead of shipments. With an improvement in the labor situation these manufacturers are in a position to increase production, and with an improvement also noted in transportation facilities buyers are receiving their merchandise on practically normal schedules.

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There is little to report as regards the activities of the many potteries at Trenton, N. J. The different manufacturers are in a waiting attitude, and the only plants which are running at close to normal are the general ware potteries which continue to maintain production at a good status. The sanitary porcelain works quite naturally are affected by the building situation, and the present awakening in construction circles is bringing about a change in the aspect with hopes of early resumption of activities on a more near normal basis of production, which has recently been cut to approximately 60 to 65 per cent.

The United States Public Health Service has opened a branch in the Federal Building, Trenton, N. J., in connection with investigation work now under way among the potteries in this section to ascertain whether workers in the plants are exposed to lead poisoning. This work is but a part of that now being conducted in different parts of the country along this same line, and will be under the direction of Paul M. Holmes, with headquarters in Philadelphia, Pa. William Mushet, health inspector of Manufacturing & Operative Potters, is assisting in this work.

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Additional tunnel kilns are being built at the plant of the Owens China Co., at Zanesville, Ohio. It is to the credit of this concern that the first tunnel or continuous kilns for decorated ware will be placed in service. The firm will then have two general ware tunnel kilns and two decorating kilns, giving it the largest battery of tunnel kilns at any single plant in the world. Contracts for erection of the additional kilns have been awarded to the Gamble & Bryan Co., of East Liverpool, Ohio, and construction has commenced.

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The Empire Porcelain Tile Co., Brooklyn, N. Y., has filed articles of incorporation under New York laws with a capital of \$500,000 to manufacture high-grade tile products. C. Spegmayer, A. L. Anderson, and A. Benson, 16 Manhasset Place, are the incorporators.

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A new two-story office building has been completed for use by the Abingdon (Ill.) Sanitary Manufacturing Co. This company is very busy making sanitary ware besides some specialties, such as porcelain desk lamps, ink wells and other interesting ware.

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The Illinois Electrical Porcelain Co., at Macomb, Ill., is going full blast making various electrical porcelain specialties. This is a very modern factory and some of its ware is shipped to points in South America.

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C. Sparks has resumed, at McKenzie, Tenn., his pottery for the making of clay jars and jugs that was dormant last fall. Mr. Sparks lost his son, Elry Sparks, in France. The young man at one time was actively identified with the pottery business.

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The Western Stoneware Co., of Monmouth, Ill. is installing an efficiency system at its No. 1 plant. A new kiln is also in process of construction at the present time.

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Brick Prices Reduced in Frisco Bay District

In the midst of the trying reconstruction period the Government is trying in every way to assist the manufacturers in the United States in stabilizing prices and is recommending that the manufacturers in the various districts coöperate in maintaining a district price for brick. As a result of the request that the producers investigate their costs and set the lowest price possible on brick for 1919, in order that the building public will realize that there will be no further reduction, the manufacturers in San Francisco and the bay district have reduced the price of brick to \$10 per thousand, f. o. b. plant, and have ad-

vertised the reduction extensively in the daily newspapers. As far as the brick industry is concerned on the coast, the trade in general is satisfied with the price. It is reported that there is at least \$500,000 worth of work tied up awaiting a reduction in steel. It is understood that new prices on steel are about to go into effect and with the delivery of that product at the new prices, it seems reasonable that the manufacturer may expect immediate activity in the consumption of brick. The amount of work in the architects' offices is indicative of what the building trades can look forward to as soon as the price levels are satisfactory to the building public.

A recent editorial in a local paper expresses very well the attitude of the general public in regard to the various building industries, this state of affairs being particularly true of the west coast: "We delay in the hope that prices will come down. It is believed that prices will come down, but very gradually and over a considerable period, but never falling to the level prevailing before the war. Nobody desires a slump in prices. That would be disastrous to everybody and would not help building or any other trade, but, on the contrary, would tend to stop whatever is going on now. There will be no slump. In the meantime, people are being born, growing up, entering business and starting families. Each year, room must be made in the world's housing and activities for multitudes who did not have to be cared for the year before. And just now there are the returning soldiers who have to readjust themselves to the general scheme of things. The safe thing is to assume that the world will go on as it always has gone on and without further fuss go on with our part of it as if nothing had happened. And that is the surest way to assume that nothing will happen. It may be safely said that any proposal to build which would have been reasonable four years ago, would be reasonable now and might as well be undertaken. The way to resume building is to resume."

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"Own Your Own Home" Bureau Created

The National Federation of Construction Industries announces the creation of a national "Own Your Own Home" Bureau as a division of the U. S. Department of Labor. The bureau is composed of representatives of the National Federation of Construction Industries, the National Association of Real Estate Boards and the U. S. League of Local Building and Loan Associations. The National "Own Your Own Home" Bureau will operate as a Government agency. A complete plan of campaign is now ready for distribution to those who are interested. Requests should be sent to National "Own Your Own Home" Bureau, care of Department of Public Works and Construction Development, Department of Labor, 1607 H Street, N. W., Washington, D. C.

Persons who are interested in the work of the National Federation of Construction Industries should communicate with its general offices at 757 Drexel Building, Philadelphia, Pa.

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Clarence F. Pratt, president of the Pratt Building Material Co., of San Francisco, Cal., with twenty years' shipping experience behind him as authority, has prepared and published a book entitled "Freight Paid and Shippers' Record Book," which is for the purpose of simplifying the bookkeeping incidental to miscellaneous shipments of freight by rail, express, steamship and other carriers.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Lower Water Table to Improve Conditions

A correspondent to the "British Clayworker" states: "In a brickworks with which I am connected there exists a difficulty which must be overcome before a successful start in brickmaking can be made.

"The accompanying rough sketch of the plant, shows positions of the clay pit and railway siding. The plant is capable of turning out 120,000 wire-cuts a week.

"The bottom of the continuous kiln (Osman) is about in the same level as the brook a few yards from it. The wooden-battened floors of the drying sheds are about 12 inches above it—the flues containing the steam pipes are beneath it. (Exhaust steam from boiler being used for dryers.) The consequence is that in wet weather the kiln bottom and drying flues of the shed get wet. Both sheds and kiln have a good many feet of 'blue clay,' a strong, fatty clay, beneath them.

"Two drain holes four feet deep by six feet square have

proposed well hole by means of a windmill or a hydraulic ram, which I believe is worked by running water and run into the brook.

"No doubt the best possible plan would be to dismantle the whole plant and rebuild it at the top of the fifteen-foot hill, putting the continuous kiln against the siding, but the time and money required to do so are both against the idea."

The answer that was given to this reply is: "There is no doubt that it is the wrong thing to consider removing the works buildings; not only would you have very considerable expense under present conditions of labor and cost of materials, but by placing your works on the hill you would immediately rob yourselves of much of your best clay.

"There are three methods of overcoming the difficulty.

"1. If there is sufficient fall in the land in the direction of the arrow at A, the simplest thing to do is to lower the level of the brook. You will then have the height of the water constantly at a lower level.

"2. If you have not fall enough to attempt the first suggestion, consider putting in a large diameter cement pipe, commencing at B and finishing at A, and run your brook thru it. You would then, when the pipe was laid, fill up the rest of the space previously occupied by the brook, preferably with well-puddled clay.

"3. The brook could be formed in concrete with concrete sides and bottom and still left open. The sides could be brought to such a height as would be well above any probable flood. On the whole we think the best plan is to pipe it; of course, it would mean temporarily diverting the brook down a wooden trough or water race while the work was being carried out; this could easily be done by damming the brook at B."

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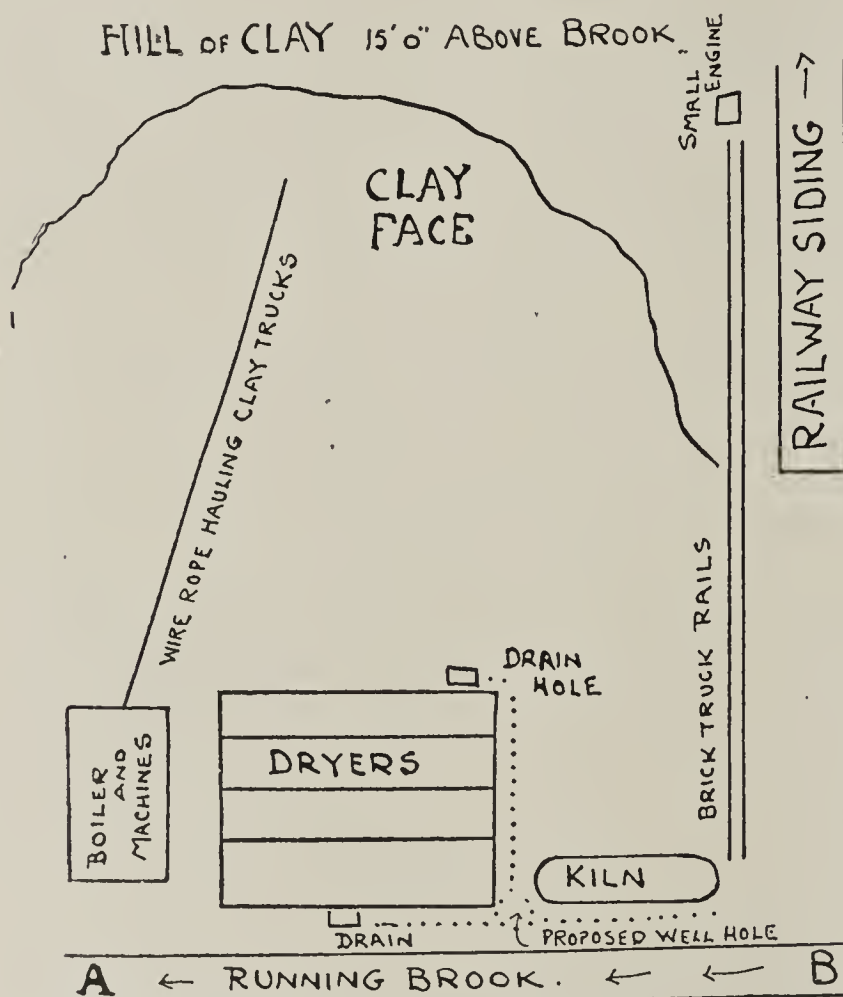
Underground Mining of Clays

The value of raw clay is sufficient to make it advisable to employ the best methods in mining clays. A ton of high grade fire clay commands a better price than a ton of coal, yet we dare say there is not as much attention paid to the methods employed in mining clay that there is in obtaining coal. Perhaps it is due largely to this very reason that clay does cost so much.

Underground work should be in charge of a competent man. The mine should be properly drained and well aired. The haulage entries should be straight and the tracks lined up and ballasted.

There should be some method in the operations, and all the clay possible taken out as the work advances. If the work is left to the direction of the miner or contractor, the deposit will be gouged here and there, entries enlarged, endangered and ruined, ribs cut out to the danger point, and the life of the mine shortened. It is cheaper to keep up a mine than to open a new one.

The cost of mining varies a great deal with the kind of clay and the conditions. In a drift mine with good roof



Layout of Plant In England Where Difficulty Is Met with
Owing to High Water Table.

been constructed close to the sheds to run them dry; these are pumped out by hand when full.

"I should be glad to know whether you think a deeper well hole, say twelve or fifteen feet deep connected with the sheds and kilns drains by means of trenches, at the bottom of which three land drain pipes are laid, would prove more effectual.

"I conjecture that the water could be lifted from the

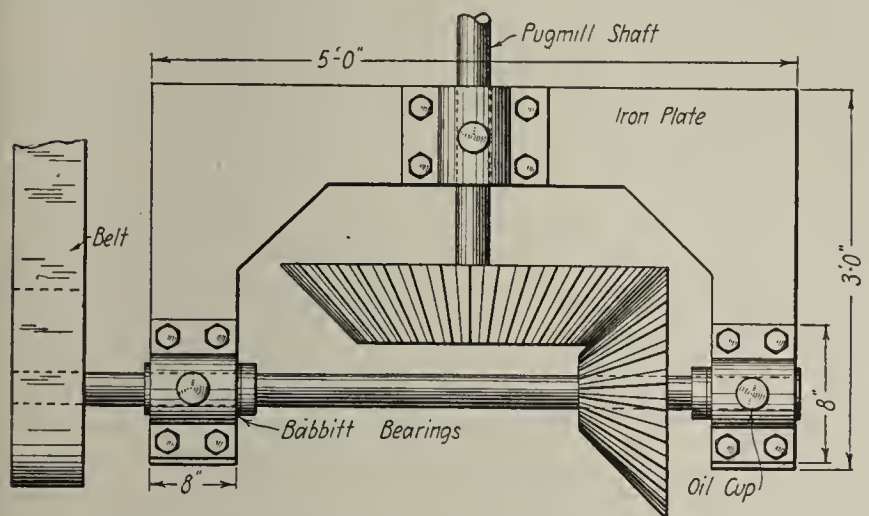
permitting wide rooms and requiring little timbering, in a seam of sufficient thickness for economical work, the cost of mining and haulage should be less than fifty cents per ton and as low as forty cents. In entry work the cost will come to sixty-five to eighty cents a ton.

In shaft mines with bad roof, narrow rooms and other undesirable features, the cost may easily double these figures.

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A Device to Hold Gears Rigid

Do you ever have trouble with your gears not meshing on the pugmill? This proved to be a menace on the Peoria Brick & Tile Co.'s plant. The gears connecting the pugmill shaft and the source of power would frequently partially disengage and cause a great deal of annoyance. Sometimes the teeth were in danger of becoming stripped.



The Above Drawing Shows the Arrangement for Holding Gears Rigid by Means of an Iron Plate.

To overcome this trouble Charles Carter, who is superintendent of the above mentioned plant, conceived the idea that if he could set the drive in a rigid frame the gears would stay put and give less trouble. Accordingly, he had a large iron plate cast into the shape of a "U". This plate was then used to support the pugmill and power shafts upon which the gears were placed. The accompanying sketch gives the general idea of the arrangement, altho the dimensions given are only approximate. The transmission is encased by a wooden box, which serves to keep out the grit and dust which is always present in a clay plant.

Since this installation has been made the gears are very firmly held, and perfect transmission is obtained. No trouble has been met with and the idea seems to have turned out very successfully.

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Care of Hoisting Ropes

A hoisting engineer should avoid careless and sudden starting and stopping, or any treatment likely to produce shocks. If the sheave grooves are filled with wood blocking—as they should be—the blocking must be watched and kept in good repair. A rope should never be allowed to run over any irregular or unequal surface. In putting on a new rope kinks must be avoided. A kink once made permanently weakens the rope at that place. A hoisting rope should not be changed from a large drum or sheave to a smaller one because it adapts itself when in use to the radius of curvature, and would be weakened by a change. The same is true in a less degree, by a change from a small to a larger drum or sheave, since the bend-

ing increases the crystallization of the wires, and also they wear against one another in certain places as they accommodate themselves to the shape of the drum, and when they are bent in a different direction by a change of size of drum they are likely to break where first worn.

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Where Superintendents Have Fallen Down

Clay plants have been constructed and a superintendent put in charge of the manufacturing end. Too frequently this person does not realize his full responsibilities on the plant with the result that the owners fail to make the proper returns on their investment that they are entitled to. The superintendent too often neglects to take care of the repairs on the plant in his concentration of efforts in obtaining a complete force of labor and his desire to obtain a full day's output.

Ordinary repairs are kept up, but the plant eventually gets in such bad condition that it requires an outlay of \$15,000 to rebuild or replace parts. Of course there always will be some depreciation on any plant which is natural and cannot be prevented, but there are also many instances where a "stitch in time saves nine" and the amount of depreciation can be kept at a minimum.

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Make Way for Victory Loan Posters

The Government is asking for a spring billboard cleaning before the Victory Liberty Loan campaign begins. Hundreds of thousands of tattered old posters from former patriotic drives still cling to walls, windows and fences.

It is recommended now by the heads of the district and state loan organizations that citizens everywhere get their premises in order for the new loan. Great patriotic enterprise, it is pointed out, was displayed by the people in offering window space, billboards, the walls of handsome new business buildings and other space for the posters of the various Liberty Loans and for the Red Cross, United War Work and other such campaigns. Positions such as no amount of money could buy for use by advertising agencies in the usual course of peace-time propaganda, it is explained, were offered free to the Government and to the semi-Government agencies helping to care for the armed forces. Property owners and tenants allowed their places of business and residences to be plastered over with these bills.

Now, however, the patriotic gift of this space will not be complete until all old posters have been removed and everything made ready for the reception of the new posters that are now being printed at Washington for distribution. Some ten million of these will be sent out to the various districts. It is greatly desired by the loan authorities that no trace of former literature be left to compete with the appeal of the Victory Loan posters. The old dirty posters have long since disappeared from the regular billboards, but thousands of them are still in evidence in empty store windows, on fences and building walls.

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The Decatur (Ala.) Brick Co. expects to open its yards shortly, where thirty-five men will be employed, this announcement having been made by J. L. Echols.

✕ ✕ ✕

J. T. A. Ritchie, Vancouver, a returned soldier, has bought the entire brick output of the Gabriola Shale Products, located on Gabriola Island, B. C.

FIRE BRICK

DOVER FIRE BRICK CO.

Incorporated 1870

Manufacturers of North Bend, Dover and Buckeye Brands.

GROUND FIRE CLAY

Unexcelled for Kiln Purposes

509 Cuyahoga Bldg.

CLEVELAND, OHIO



Tank Economy

It's economy to install a Caldwell Cypress Tank because it's built of long-lived cypress according to approved engineering principles by men who have been building tanks for over thirty years. Send for Catalogue.

W. E. Caldwell Co., Inc.

2380 Brook St.

Louisville, Ky.

Caldwell
TANKS
AND
TOWERS

We Specialize in Bonds on Clay Properties

We Arrange for Their Issuance and Sale

We have rendered aid to many clay product manufacturers desiring to expand and improve their properties.

Write Us—Perhaps We Can Help You

F. W. MORGAN & CO.

1st National Bank Bldg
CHICAGO, ILL.

EXPERT APPRAISAL OF CLAY MANUFACTURING PLANTS

We refer to Mason City (Iowa) Brick and Tile Co., Rockford (Iowa) Brick and Tile Co., and other plants.

RAU APPRAISAL CO.

Grand Ave. at Fifth St.,
Milwaukee

Jackson Blvd., at Dearborn St.
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Eighteen Years in Appraisal—Write us for literature

Save Coal and Produce Better Ware thru the use of
Webster's Continuous Down Draft or Continuous Muffle Kiln

We invite your correspondence

HENRY WEBSTER,

628 Lexington Ave., Newport, Ky.

RICKETSON'S BRICK COLORS

Rich, Even Tone



They Go Further

"Ricketson Brand" Mortar Colors are specified and used because they are absolutely true to tone and mix easier than ordinary brands. Write to

RICKETSON MINERAL PAINT WORKS

Milwaukee, Wisconsin



Consulting and Research Engineers in

Clays
Kaolin
Bauxite, Etc.

REFRACTORIES

Fire Bricks
Furnace
Construction, Etc.

KRAUS RESEARCH LABORATORIES, Inc.

130 Pearl Street,

NEW YORK, N. Y.

GOOD IDEAS

don't cost you anything if you get them from the ads you see in "Brick and Clay Record." Read them.

QUESTIONS

A Three Cent Stamp May Bring You Advice That Will Stop a Waste, Improve Your Ware or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Wants Information on Roofing Tile

897. Texas—We wish to manufacture a shingle roofing tile of as light a weight as practicable and would like to know the process of manufacture and also as to how they are set in a thirty foot down-draft kiln.

Brick and Clay Record would be very glad to receive information from its readers in answer to the above question.

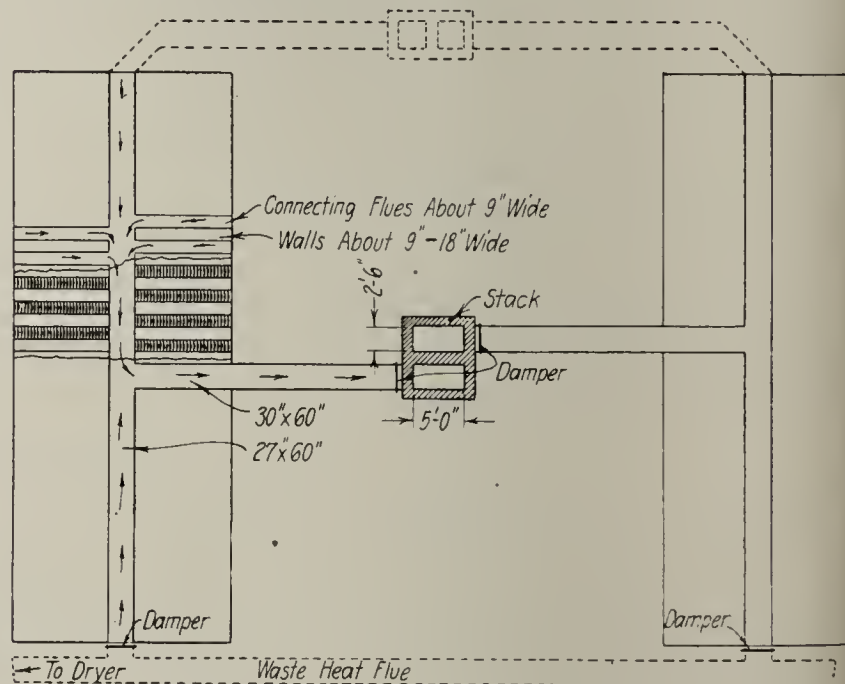
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Desires to Remodel Kiln

898. Missouri—We recently purchased a tile plant in Kansas which has six rectangular kilns, eighteen by sixty-five feet inside measurements. The kilns are twenty-two feet apart and there are eight fire boxes on each side—sixteen to a kiln. Also, the kilns are of the multiple stack type.

We are contemplating some remodeling and had in mind discontinuing the small chimneys, building larger ones, and making three large chimneys answer for the six kilns, building a chimney between every other kiln. Our waste heat tunnel runs so near the end of all kilns that this would have to be entirely rebuilt if we were to put the chimneys on the end.

Any advice or suggestions that you might give would be appreciated very highly.



Sketch of Floor Plan and Stack Arrangement Suggested for Hollow Block Plant.

In furnishing the data in regard to remodeling your plant, we find that you have omitted several points which are essential before a satisfactory answer can be given. We would like to have a rough sketch of the flue system of

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

your kilns and also, it is necessary for us to know the distance from the end of your kilns to the railroad spur, which in all probability extends along the ends of the row of kilns.

Providing your flue system warrants it, we believe you are on the right track in proposing to construct one stack for each two kilns, but this stack should be a double compartment stack. Apparently these stacks will have to be placed at the end of the kilns opposite to the ends along which the waste heat flue runs.

Before going any deeper into the matter, we wish you would send us more details, and we believe we can be of considerable more help to you.

The following reply was received to the above letter:

Referring to the second and third paragraphs of your letter asking further information and answering the questions will state: First, in figuring the flue system consider that we have none at all. We want the best results from the kilns and are willing to remodel everything except the kilns proper.

Second, you are right in assuming that we have a railway spur parallel to the end of the kilns. This track is some distance from the kilns leaving ample space for large chimneys.

We are submitting a rough sketch of a plan which we think is self explanatory. The open floor system is no doubt the best kiln floor for burning any kind of salt glazed ware.

If you do not intend to salt glaze your ware we would recommend that you use the solid floor with holes in the floor of about six by six inches in dimension and from eighteen to twenty-seven inches apart.

In the sketch we are submitting you will notice that we have placed the chimney between two kilns. There is one objection to this which may or may not be very serious and that is, that it occupies a considerable part of the space between two kilns and may interfere with the efficient distribution of coal around the kilns. However, a better draft will be obtained by using this plan. You will note that the stack we have drawn is a double stack which is quite essential for good draft.

If conditions are such that it is not feasible to place the chimney where we have placed it, between the two kilns, you might place it at the end opposite to your waste heat tunnel in the manner we have roughly sketched in pencil.

Your waste heat flue may be connected with the main flue of your kiln very easily and a damper put at the proper place to disconnect the kiln from the waste heat flue when the kiln is in process of burning. In case you should decide to place the chimney at the end of the kiln, it will be necessary for you to place brick bats in the connecting flues at the end of the kiln near the stack, otherwise the draft will be greater at this end and insufficient at the end of the kiln



REPAIRS! Rush work! Its often the result of poor work. "Gone Again, a booklet for belting users, prescribes a remedy. Write for your copy today

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"For Continuous Production"
CRESCENT BELT FASTENER CO. 301 Fourth Avenue, New York, N.Y.

Blasting without using the CYCLONE DRILL

is like hunting deer with birdshot. You can't possibly get good results.

We are ready to offer you facts and figures to prove that the Cyclone Drill will soon pay for itself.

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Reduce the chances of

FIRE PREVENT Vandalism

By equipping your watchman and burners with a

HARDINGE Watch Clock

You will save in insurance more than the cost of the clock system—to say nothing of the increased efficiency of your night force.



Write for details
Hardinge Bros Co., Inc.
1760 Berteau Ave., Chicago, or
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An investment that stands
The initial cost of a
K-B Pulverizer

is low and covers about all the outlay necessary. It is built throughout of high grade steel—and is practically indestructible. There's a substantial saving in power costs as well.

Send now for catalog with interesting
There's a substantial saving in power costs as well.

K-B Pulverizer Company, Inc.
70-72 Worth St., New York



"LOXALL" Popular Hollow Tile

is being licensed to manufacturers in the U. S. A. and Canada. It has earned the title of "Popular Tile" because it is easy to make, lay and sell, and is liked by the Builder, the Mason and the Manufacturer.

If you are interested in this money making proposition, get in touch with us at once.

J. E. EXNER 507 Spruce Street, E.
Coffeyville, Kan.

Reliance Jaw Crushers

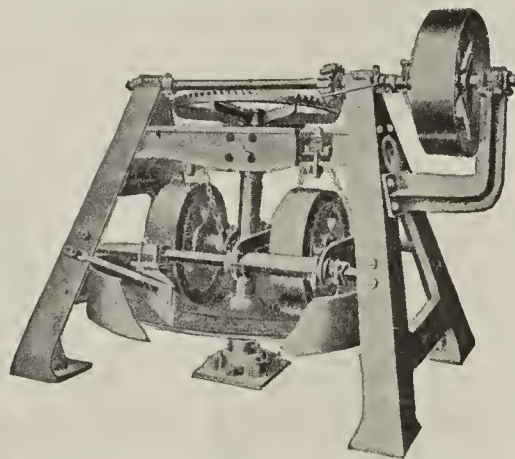
Speed up the work, and ease the strain on dry pans by installing a **Reliance Guaranteed Jaw Crusher**.

In some instances, the increased efficiency thus obtained has been remarkable.

Write us for booklet on Crushers. We also can give you information on Elevators, Screens, etc.

UNIVERSAL ROAD MACHINERY CO.
KINGSTON, NEW YORK

THE EAGLE DRY PAN



Write for Prices

EAGLE IRON WORKS DES MOINES
IOWA

Aerial Tramways For Economical Haulage



Manufactured by
BRODERICK & BASCOM ROPE CO.
SAINT LOUIS, Mo.

farthest from the stack. The amount of blocking you will have to do will depend upon kiln conditions and it can only be determined by experiment. In other words, you will have to try several burns until you find the right amount of brick bats to place in the flues nearest the stack in order to make them draw equally to those at the farther end.

The stacks should be constructed about forty to fifty feet high.

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Using Auger on Hudson River Clays

899. *New York*—We are making common brick by the soft mud process and burning them in scove kilns. It is generally accepted that the auger machine cannot be used in the Hudson Valley but we would like to know if anyone has ever tried it out and if they did, what success they had. We would like to increase our scope of products manufactured and are anxious to know whether we can manufacture hollow building tile from our clay. Any information you can give us on the possibilities of using the auger machine will be very much appreciated.

We can best answer this question by referring you to Robert W. Jones' article in the May 7, 1918 issue of *Brick and Clay Record* in which he says: "Unfortunately, about fifteen years ago the statement was made that the auger machine was apparently not suited for the conditions found in the Hudson Valley. Since that time I have no knowledge of any attempt being made to thoroly investigate conditions as to the truth of this. An attempt was made to produce a dry-pressed brick. The material burned to a fine smooth red color but the plant was unfortunately operated with material which carried calcium sulphate in great abundance. This is the only place in the valley where such conditions can be found and yet it is held up as a warning for the entire section.

"One plant was constructed to use an almost non-plastic shale in the auger machine and this is held up to the other producers as showing what would become of their plant if they should ever make a change. I do not say that every clay in the valley can be used in the auger or dry-press machine but there are clays which will turn out a fine grade of common-hollow, hollow blocks, drain tile and even a good grade of face brick. We have one producer in the Hudson Valley who has experimented to the extent of producing common soft-mud brick, common hollow blocks, drain tile and face brick, burning them in the ordinary form of scove kiln with considerable success. His market was limited but by producing these other articles he has increased the market for his commons and he has a promising industry in his new products."

It seems to us entirely feasible to give the matter a trial for should you find that you can use the auger machine it will be of considerable advantage to you and this is not entirely out of the range of possibility.

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Carl Dieckman, United States Consul at Santos, Brazil, is in St. Louis conferring with brick manufacturers. He is advocating greater trade relations between manufacturers and South America, and has information showing that the South American market is practically unlimited and that the Brazilians are ready to coöperate with the manufacturers, pointing out that shipments by water can be made more profitably to that country than to many points in the United States.

The LETTER BOX

A Place Wherein Letters
That Have General In-
terest Are Published and
Commented Upon

A Correction on Cost Figures

In an interview with a representative of a common brick manufacturer of Wisconsin, a member of the editorial staff of *Brick and Clay Record* obtained some figures on the cost of production of common brick. These figures were used as the basis of a superintendent item which appeared in the March 11 issue of this journal. The following letter, which is from the company which furnished the figures used in the item mentioned, makes a few corrections, and is self-explanatory:

We have read the article, "Common Brick Cost Figures," on page 418 of the March 11, 1919, issue of *Brick and Clay Record*.

These figures were given to you by our representative some time ago.

There is quite a misunderstanding about your article and the actual case as it really is. First, the book system is not put up by a Milwaukee firm. It is a system gotten up by ourselves thirty years ago, but the books we use are made by the H. C. Miller Co., of Milwaukee.

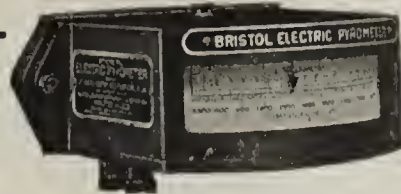
Also there is a misunderstanding in the production of brick for 1917 and 1918. The production for 1917 was 1,500,000 brick, and for the year 1918 was 750,000 brick. The cost account for the two years which we gave you is correct to the fraction of a cent. The big difference between the cost of production in 1917 and 1918 is chiefly due to the direction of the Government, as the Government cut the production for 1918 down to 50 per cent. of the average production of the years 1915, 1916, and 1917, so that when we had made 750,000 brick we had to stop manufacturing for the year. So the curtailment of production in 1918 is the reason for the big difference in the cost of production between the years 1917 and 1918. The increased cost in the production of the 750,000 brick made in 1918 is due mainly to expenses which run the year round, whether we are operating or not. These expenses are salaries, sundries, horse feed, taxes, insurance, and interest. These items make a difference of \$3.175 per thousand brick in the cost of the production of 1917 and 1918, as follows: salaries, \$1.36; sundries, \$.732; horse feed, \$.537, and taxes, insurance and interest, \$.546.

The total difference in the cost of production for 1917 and 1918 was \$5.725 per thousand brick, so the increased cost of the materials used in manufacture, wear and tear was \$2.55 per thousand brick for 1918 against 1917.

We also wish to state that in figuring the number of brick made each day that we do not figure the daily production according to what the capacity of the machine might be. We take actual count. Our machine men must make 28,000 brick for a day's work. The brick that are made are counted at the end of each day, and a record kept, so that we know exactly how many finished brick are in our kilns after they are burned. A daily record is kept of the number of brick that are taken from the kilns, so that we know from day to day just how many brick we have left in our kilns. We also make a balance of our business every night, just the same as a bank does.

By keeping an accurate account of the brick that are made and the number of brick taken out of the kilns we can tell exactly what the waste is from the machine to the car in which they are loaded to be shipped.

You may publish the foregoing but do not publish it over our signature, but if anyone should inquire as to the author of these statements you may tell them and you may also tell them that if they will call on us we will be glad to show them



BRISTOL'S PYROMETERS

For Indicating and Recording are particularly adapted to high sustained temperatures, where the value of entire burns are dependent on correct readings.

They measure up to the high standard maintained by Bristol's Instruments for over a quarter of a century.

Write for bulletin AE-205

THE BRISTOL CO., Waterbury, Conn.

When Planning Drives

Before Buying Pulleys and Belting Ascertain HOW
"MORSE" Drives will SAVE, CONSERVE
POWER AND INCREASE PRODUCTION

Consult Our Engineering Service, Assistance Free

MORSE CHAIN CO., ITHACA, N. Y.

Boston
Chicago
Cleveland

Detroit
Greensboro, N. C.
New York

Pittsburgh
San Francisco
Atlanta

Montreal
Minneapolis
St. Louis

Of Course We Don't

make sprocket chains for Brick and Clay Plants exclusively; for, as an Omaha manufacturer said, "Union Chains last too damned long."

So, just now we're making, besides our standard chains, a big special chain, good for a safe load of 50,000 lbs.—pulls 400 tons of loaded cars through tunnel kiln.

But, an order from one of you Brick and Clay boys makes us happier than any other; because we know that we can help you and that Union Steel Chain is bound to help fatten your pocketbook. We know it—positively, absolutely—and only await an opportunity to give you proof. Write us before you forget—now—about "The Chain of Double Life."



Union Chain
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BUILDING SUPPLY NEWS

It increases your sales by advertising better ware direct to dealers.

It lowers your cost per thousand through increased production.

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Rates and sample copy on request

We Can Save You Time, Money and Trouble on Fire Brick

BECAUSE OF

Quality, Price and Service

Freight Rates on all R.R.'s in UNITED STATES and CANADA

A Trial Shipment Will Convince You. Write Us

ALSEY BRICK & TILE COMPANY
ALSEY, ILL.



Clean, profitable fuel for burning clay products.
Used by some of the largest concerns in the clay
products industry.

We are prepared to ship in any quantity and on
time. 12,000 tons daily capacity. Ill. Central—
C. & E. I.—C. C. C. & St. L.—C. & A.—U. P.

RUTLEDGE & TAYLOR COAL CO.
Fisher Building, Chicago
Branches: St. Louis and Omaha

This speaks for itself—

Great Falls, Mont., March 20, 1919.

We take pleasure in recommending Mr. Mason to anyone in need of a
first class kiln man and expert burner.

Mr. Mason had charge of our burning last year and is with us at
the present time as a kiln man. We have never seen his equal as a
burner and in this line do not think that he can be excelled.

We have found him absolutely reliable and conscientious, and a gentle-
man whom it is a pleasure to do business with. To any concern not
getting best results from their kilns, we take pleasure in commending
Mr. Mason to you as a man who can pull you through if it is possible
for it to be done.

GREAT FALLS BRICK & TILE CO., (Signed)
Wm. H. Shaw, General Manager.

HARRY V. MASON

Pyrometric-Expert and Kiln Specialists
Clays Tested Trial Burns

1153 49th Avenue,

PORTLAND, ORE.

LESCHEN WIRE ROPE TRAMWAYS



Provide
Economical
Transportation

ESTABLISHED 1857

A. LESCHEN & SONS ROPE CO.

ST. LOUIS, MO.

NEW YORK. CHICAGO. DENVER. SAN FRANCISCO.

our system. This invitation is also open to you, if you should
ever care to see our system. We had a Government account-
ant in our office some time ago, and he told us that we had
as fine a system as he had ever seen.

If every brickmaker had a cost accounting system it would
be a good thing for all of them.

* * *

IN *the* WAKE of *the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Persona!

H. S. Hamilton, president, and L. W. Sprague, general
manager of the McArthur (Ohio) Brick Co., were recent
business visitors in Columbus.

R. L. Findlay, of the Hay Walker Brick Co., New York
City stopped off at Cleveland, Ohio, recently while on his
way to visit plants in this section of the country, and
which his firm represents in the East.

Frank Smith, of Chicago, has recently removed to Peoria,
Ill., to take over the management of the Nicholson Bros.
tile plant at Ray. He succeeds James F. Nicholson, who
was stricken with influenza several weeks ago.

Frank C. Aschemeyer, salesmanager of the Hydraulic-
Press Brick Co., St. Louis, Mo., has returned from a two
weeks' vacation at Excelsior Springs, where he has been
preparing himself to handle a vast amount of business,
which he expects will come within the near future.

Huston Fairleigh, formerly with the Louisville (Ky.)
Builders' Supply Co., who has seen service in France as a
first lieutenant, is back with the company again. Mr.
Fairleigh started in as a brick salesman with the old
Union Cement & Lime Co., several years ago.

Mr. Cole Landers, who has been connected with the
Western Brick Co., of Danville, Ill., for six years as a
salesman, has been transferred to Peoria, where he will
have charge of the company's office. His territory will
be the northern part of Illinois, outside of Chicago.

Howard Miller, but recently a lieutenant in the U. S. Army,
has received his discharge and has resumed his position in
the New England territory, with the Thomas Maddock's
Sons Co., of Trenton, N. J. "Hoch" Whelan also is back
in the U. S. A. and expects to be discharged from the army
soon, when he will probably go to the sunny Southland for
the company.

Arizona

The city council of Tucson, Ariz., has removed the pro-
hibition against building wooden houses in the city. Hither-
to the entire city was a fire district in the sense that build-
ings must be erected of brick, stone or concrete, so far as
their outer walls were concerned. The outer walls of struc-
tures in the business district must still be of fireproof ma-
terials and to that extent the city is protected from a
holocaust.

California

Clay grinding has been resumed at the Gladding-McBean & Co., pottery at Lincoln, Cal., after an idleness of eight months. The force of workmen is now being augmented and final work on other buildings is being finished and the plant is expected to be in full operation not later than July or August of this year. George R. Chambers, vice-president of the company, was in Lincoln during the middle of March in the interests of the firm. Gladding-McBean & Co. have officially announced the change of the principal place of their business, from Lincoln, Cal., to the Crocker Building, at the corner of Market and Post Streets, San Francisco.

Connecticut

Signs of life are beginning to be exhibited on the brick plants in the district of East Berlin, Conn. The manufacturers have commenced pumping out their clay pits, preparatory to making brick.

C. Winfield King, manager of the Central Connecticut Brick Co., with offices in New Britain, has purchased the lumber, coal and masons' supplies business of George H. Allen, in Manchester, and will remove with his family to that city.

A 400-foot storage shed at the plant of the Stiles Brick Co., at North Haven, Conn., was destroyed by fire on March 24 with a loss estimated by J. F. Reynolds of the company at \$8,000. The blaze is thought to have been started by sparks from a passing locomotive. The building was partially filled with brick but this was not damaged. Nearly 100 cords of firewood, however, were destroyed. Employees of the company formed a bucket brigade and fought the flames until the arrival of the fire department.

Georgia

Altho the Alto Brick Co., at Rome, Ga., has not completed its corporate organization, it has already placed its plant in operation. The firm has been incorporated with a capital stock of \$30,000 and has a daily capacity of 20,000 light-colored face brick. B. E. Welch and others are at the head of the new concern.

Illinois

Things are still very quiet at the Monmouth (Ill.) Clay Products Co. factory. No sewer pipe has been manufactured since December 22, 1917 and so far no preparations have been made to commence operations again.

One plant of the Illinois Brick Co. is already in operation and two more will follow very soon. The plant at Purington, which is generally known as plant No. 17, started making brick several days ago. This firm expects a good demand for brick in a short time and is preparing to make a big output for the coming year.

The Peoria (Ill.) Brick & Tile Co. is starting operations on all three of its plants located in East Peoria. Considerable remodeling has been done on the three plants this winter including the making of changes in the crushing plant at one of the factories. This firm expects to turn one of its plants over to the making of face brick within a short time.

The Macomb (Ill.) Sewer Pipe Co.'s plant continues its steady operation altho the demand for its product is not at all good. A large stock pile has accumulated which makes an impressive sight to look at when visiting the factory. How-

Many plants have improved their ware, saved time and saved lots of fuel with a Price Pyrometer.

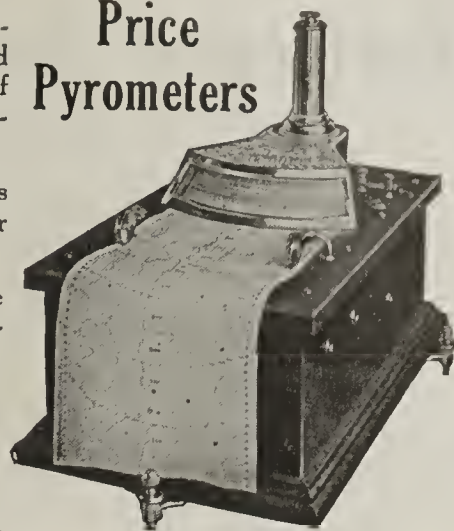
Any one of these savings justify a Price Pyrometer on your kilns.

We want to tell you more about them. Write us to-day.

The Price Electric Co.

12367 Euclid Ave.
CLEVELAND OHIO

Price Pyrometers



Hay and Straw For Packing

JAMES A. BENSON

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"Shipments Anywhere in the United States"

—Your Choice

Cut out the waste in your burning
or

Have your coal bills eat up your profits.

COAL is the very life blood of the nation today. The Fuel Administration must see that it is used to the best advantage—waste cut out.

Use CANTON SHAKING KILN GRATES and save 25% of your fuel. Others are doing it, and they are the concerns who will be favored in the distribution of coal.

You must either line up with the Fuel Conservation program or be left out of the running.



The Canton Grate Co.

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Southern Representative:
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Efficiency Engineer

829 Trust Co. of Ga. Bldg.
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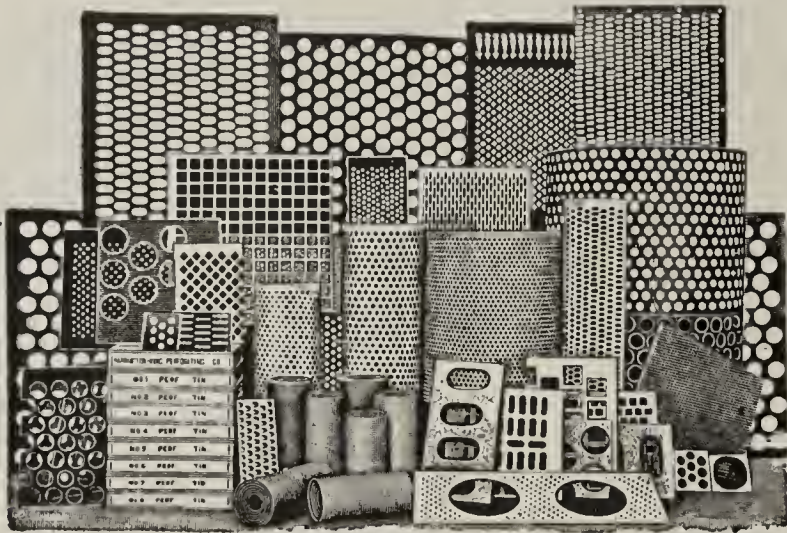
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NEW YORK OFFICE: 114 Liberty St.



You won't have to worry about competition
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R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick
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Scum-Proof

You can get a higher price and influence
architects to specify your product because
Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's de-
pendable.

*We have a complete line
of high grade chemicals
for the clay industry*

**The Roessler & Hasslacher
Chemical Company**

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ever, when public improvement work begins to go forward again it is expected that this huge collection of sewer pipe will soon find better use than decorating the space surrounding the sewer pipe factory.

Building operations are beginning to open up in grand style in Peoria, Ill. Ground has just been broken for the construction of a washing machine manufacturing plant which will be of considerable size. Another one of the more important operations is the resumption of the construction of the large twelve-story insurance building which was started sometime ago but work was held up because of the shortage of steel. This will be a brick building trimmed with terra cotta.

Manufacturing will commence again on the plants of the Purington Paving Brick Co., at Galesburg, Ill. A new crushing plant has been installed at one of its plants which formerly obtained its ground clay from one of the other factories, the clay being hauled by locomotive and cars. The new crushing plant includes two large dry pans which have their step supported by double I-beams. A belt conveyor will catch the grindings below and carry the clay dust to the elevator boot. The clay from bank will be carried in cars to the plant where it will be dumped into a large bin from where the clay can be shoveled upon the conveyor belts feeding the dry pans.

The building situation in Chicago is rapidly changing for the better. Chicago at the present time is facing a famine in buildings, particularly apartment houses. It is expected that when the real estate men find the big demand for new houses and apartments during the moving season around May 1 they will see the need for building and the result will be a great pick up in this type of construction. Last year at this time building operations were confined almost entirely to such structures as were authorized or needed by the Government. Recently, however, the building permit department has been kept busy issuing permits for buildings ranging in cost from \$5,000 to \$20,000, these applications running more than sixty per cent. in excess of those at the same time last year. Many plans for downtown structures are being submitted to the bureau, but permits for their construction will not be requested until the steel situation is adjusted.

Indiana

The Wells County commissioners recently awarded the contract for a brick roadway, one mile long and twenty feet wide, from the north corporation line at Bluffton, Ind., to the Toll Gate school house. The contract, which went to C. S. Brinneman and W. S. Gordon & Son, was for \$41,900.

The farmers' road committee of Summitville, Ind., held a conference with the Summitville Commercial Club recently and decided to brick the school house road at once. It is understood that a movement is on foot among residents of Summitville to petition for other brick roads in that vicinity soon.

Brick appears to be the favorite material for building purposes at Gary, Ind. Out of five building permits, aggregating \$44,500 in cost of construction, issued there one day the last week in March, all of the permits were for brick construction. The permits were for two two-story brick store buildings and three two-story brick apartments.

Two petitions for brick roads leading into Huntington county were filed last week with the county commissioners under the county unit law, one asking for the paving of

a road leading from the corporate limits of Huntington to the county line at Luther, and the other asks for the paving with brick of the road leading from Huntington to the town of Warren. The county unit law under which the petitions were filed, provides that the county commissioners have the choice of the materials from which the improvements are to be made.

More building permits were issued at Gary, Ind., during the month of March than in any previous March since 1913, according to the records from the building commissioner there. In the month just closed eighty-eight permits were issued on construction estimated at \$275,345. The total number of permits issued since January 1 was 155 on property valuation of \$504,137. This record for the first quarter eclipses that of any previous quarter in the history of Gary with the exception of the first quarter of 1917, when more than one million dollars' worth of permits were taken out by the American Sheet & Tin Plate Co.

Building in Indianapolis is decidedly on the upward climb, according to the report of building operations for March as compiled by Blaine H. Miller, city building commissioner. Permits for building estimated to cost \$529,314 were issued during the month, the number of permits being 608. In the same month of last year 462 permits were issued on buildings estimated to cost \$334,719. The majority of the permits issued during the month were for the erection of new dwellings, the commissioner said. Because of the nice weather during March the demand for brick and other kinds of building material was more than satisfactory, it is said, and, judging from estimates on plans and figures that have been submitted, April is sure to be a record-breaking building month.

Iowa

E. R. Sturtevant and C. L. Rorick, of the Hollow Building Tile Association, of Chicago, held a meeting at the Chamberlain Hotel, Des Moines, Ia., March 13. A number of the Iowa hollow tile producers were present and a most satisfactory gain in membership was made as a result of the visit of the organizers.

The Permanent Buildings Society, of Des Moines, Ia., has plans made for the construction of a model farmstead on the state fair grounds. The first building to be erected will be a standardized barn which is planned to be in readiness for the 1919 state fair. Later from time to time other buildings are to be added with the residence planned as the last link in the chain.

Kentucky

A considerable amount of street and sewer work is being planned in Louisville, Ky., Paris, and many other small cities out in the state, indicating that the demand for various sizes in sewer pipe will be good.

During the past ten days several of the brick plants at Louisville, Ky., and up thru the state got underway again and indications are that they will be in full swing within two weeks. The Coral Ridge Clay Products Co. got started during the last week of March, and Manager James T. Howington is feeling more optimistic than for some months past, as a result of a number of good orders.

The coal situation is good, with brick manufacturers receiving quotations running as low as \$1.90 on eastern Kentucky mine run coal. However, no contracts will be accepted at that price, and in fact, mine operators do not want contracts at any price, as the market is very uncertain, and the labor situation is far from secure. Coal

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Is the drying operation a *responsible* part of your manufacturing process?

The dryer affects production costs most markedly by its control over capacity and output. Failure to get material properly dried hurts its quality. Failure to dry the material on time reduces the quantity. And, other departments are held up.

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In such mills and plants where these features are *responsible* for efficiency and economy, there you will find

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"Waterbury" is the high-water mark of rope quality. Grades change according to the conditions under which the rope is to be used but the quality in each respective grade is uniformly of the highest.

Waterbury Wire Rope is made in grades designated as Swedish Iron, Crucible Cast Steel, Extra Strong Cast Steel, Plow Steel and Green Strand Giant Steel, the latter being the highest grade of Improved Plow Steel.

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A 220-page cloth bound Rope Manual covering all kinds of rope—Wire, Armored Wire, Fibre and Fibreclad Wire—will be mailed free upon request.

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One of the five ERIE Shovels owned by the Cable Company, Canton, O. Digging a very hard shale, 630 cu. yds. per 9-hr. day.



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more reliable;
wider range;
speedier!"**

"The ERIE is the best steam shovel on the market today. We have operated two other makes of shovels, but the ERIE is stronger built, more reliable, has a greater range of action, and is much speedier than any other machine of its size.

"We have averaged 630 cu. yds. of hard shale per day of 9 hours."

—A. B. Cable, Pres., the CABLE CO., Canton, Ohio, owners of 5 ERIES digging shale for clay products.



When necessary, the ERIE shovel can be operated very rapidly, to produce a big output. This extra capacity does not cost you anything—it is "velvet."

Investigate the ERIE Shovel. Write for a copy of Bulletin B.

BALL ENGINE CO., ERIE, PA.

Builders of ERIE Shovels and Cranes; BALL Engines.

ERIE Revolving Shovels



Are you looking

for some way to relieve you of your sales worries? If so; advertise your ware—Building Brick, Building and Drain Tile, Sewer Pipe, Fire Brick, Terra Cotta, etc.—in

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Advertising rates and sample copies cheerfully sent on request. Write today.

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BUILDING SUPPLY NEWS issues a current price list of your commodities in 73 cities thruout the U. S.

operators in many cases are looking for a very high winter market in event summer stocking does not materialize.

W. E. Glossop, Louisville city building inspector, is very optimistic concerning business during the year, pointing out that during the past ten days a number of good small contracts have been issued, while there are several bank houses and other jobs in sight. L. Jacobson and Charles Meriwether, prominent small residence builders, have both taken out batches of permits for residences to cost about \$3,000 during the past few days. January permits ran over \$95,000, as compared with less than \$39,000 last year. February turned more than \$104,000, as against less than \$84,000 last year.

The general demand is picking up somewhat in Louisville, Ky., and out in the state for both brick and hollow tile, while the demand for sewer pipe is somewhat better. Drain tile has been in big demand, but stocks are cleaned up, and farmers are now getting too busy in the fields to tile land. Coping, flue thimbles and other lines of clay products have not been so very active, but are showing signs of again coming to life as a result of increased building. Permits for the past two weeks have been running considerably better than they have for months past. The permits for the most part are for small dwellings, but the number of permits is larger than had been expected and shows a building tendency.

The old brick plant of the Hillenbrand Brick Manufacturing Co., Louisville, Ky., is again in operation, having been taken over by the Hillenbrand family, and reorganized as the Progress Pressed Brick Co. Andrew P. Hillenbrand, who for several years has been at the head of the company, will be a sort of silent partner in the new organization, he having planned to turn the active management over to his three sons, Oscar, Carl and Andrew P. Hillenbrand, Jr. The latter and his brother, Oscar, for several years operated the old East End Brick Co., which is now out of business. Oscar was formerly connected with the Hillenbrand Brick Manufacturing Co., but Andrew, Jr., is with the concern for his first time. The company has announced that it will make a few changes in the plant, and endeavor to manufacture better brick, of the dry pressed variety, and market them at a fair price.

Maryland

The Conococheague Brick Co. has resumed operations at its plant at Williamsport, Md., with a full force of men. The plant has been closed down since last August, owing to war conditions. The plant has a capacity of 82,000 brick a day and is owned and operated by Victor Cushwa & Sons.

The plant of the Columbia Coal & Brick Co., at Buckeystown, Md., which was destroyed by fire last October, is to be rebuilt. Work on the construction of the plant which will be of steel and hollow tile has already begun. The machinery and equipment which is to be operated by electricity will be installed very shortly, making this one of the most up-to-date plants in the locality. It is expected that the manufacture of hollow tile will commence in June. J. H. Baker is president and treasurer, and John J. Daniels superintendent of the plant.

Massachusetts

The announcement that several large new office buildings are soon to be erected in Boston, Mass., is looked upon as one of the most hopeful signs, for it is felt that if

real estate operators are willing to back such projects, building in other lines will soon fall in line.

Unusually mild weather during the month of March enabled brick manufacturers in many sections of Massachusetts to put their yards in order preparatory to an early resumption of manufacturing. A gradual indication that the building campaign is having its effect and that the labor situation is easing up has given brick manufacturers renewed courage, and while business is not yet normal for this time of the year dealers generally report a gradual improvement.

Michigan

Among the brick contracts just awarded the Michigan Face Brick Co., of Grand Rapids, are: The Occidental Hotel, Muskegon; Du Pree Chemical Co. and Holland Creamery Co., Holland; and the Godfrey Building, Monroe Avenue, Grand Rapids.

C. G. Easley, of Detroit, Mich., a prominent brick manufacturer, has taken over the Grand Rapids Brick Co. and will operate the big plant east of the city to capacity as soon as the equipment and kilns can be overhauled and a working force recruited. The plant has been out of commission since war restrictions put a stop to building operations two years ago. As the plant now stands, it has modern equipment and a capacity for a daily output of between 100,000 and 125,000 brick. The firm will go under the name of the Standard Brick Co.

Minnesota

Labor now is the only thing that stands in the way of a general revival of building operations in the twin cities. The announcement of the new schedule of steel and iron products prices was followed quickly in St. Paul by an announcement by the Northwest Face Brick Association that all jobbers in face brick have decided to make a substantial cut in prices immediately.

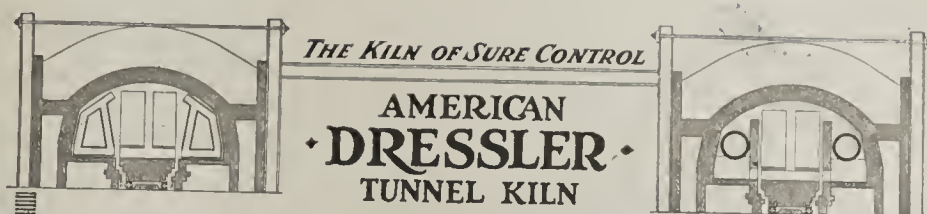
Missouri

Secretary Pocock, of the Brick Manufacturers' Association, diagnosing the situation in St. Louis, said the outlook at present is bright. Not only are St. Louis builders expected to resume enterprises temporarily halted by the war, but much overhauling is anticipated this spring on account of several reductions in building supplies in general and the abundance of labor.

The St. Louis (Mo.) Board of Public Service, in placing contracts for about \$260,000 worth of street improvements, including a great amount of brick, sand, cement and other materials, reports that the total cost of the improvements will be \$40,000 less than they would have cost twelve months ago. A large supply of ready materials at a reduced figure are said to be the factors contributing to the lower costs.

Harry C. Kennedy, representative of the Interstate Clay Products Co., St. Louis, Mo., says that he has been informed by local architects that a large number of apartment buildings which have been under consideration for some time, soon will be placed in course of construction. Mr. Kennedy accepts this information as proof that the building activities in St. Louis have begun to develop on the same large scale which he has been consistently predicting during the past several weeks.

Henry D. Grady, treasurer of the St. Louis (Mo.) Terra Cotta Co., reports that his company is finding a good market for materials and that there is every reason to be



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Bituminous COAL Particularly Adapted To Burning Clay Ware

INDIANA BLOCK

Three Operations in Clay County, Indiana, on Monon R. R. Capacity, 3,000 Tons per day.

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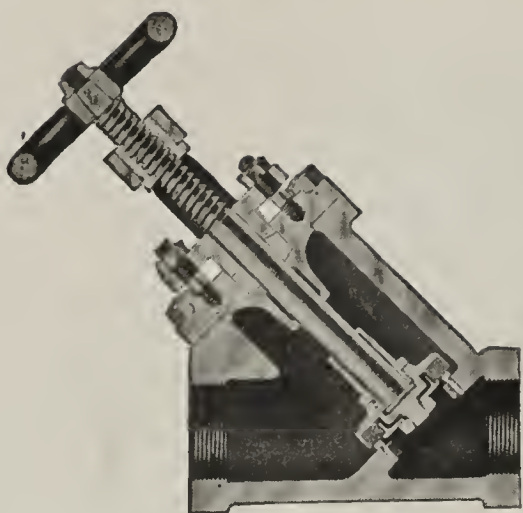
Three Operations in Green County, Indiana, on Monon R. R. Capacity, 3,000 Tons per day.

Both burn with long flame, are very low in sulphur, and leave a flaky ash.

Tell us your requirements

POWER COAL COMPANY

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Traction Building, Indianapolis, Ind.
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Blow-off Valve*

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Special attention is called to the Jenkins Iron Body "Y" or Blow-Off Valve — a strong, rigid valve that, on account of the full, straight opening, offers practically no obstruction to the free passage of steam or liquids, making them well adapted for almost any service where thick fluids, as gritty, sediment laden water, are handled.

Jenkins Valves are backed by fifty years of practical experience in valve making. Their construction is heavier, particularly where the strain and pressure is greatest.

Genuine Jenkins Valves are identified by the Jenkins "Diamond Mark"—Look for it—demand it.

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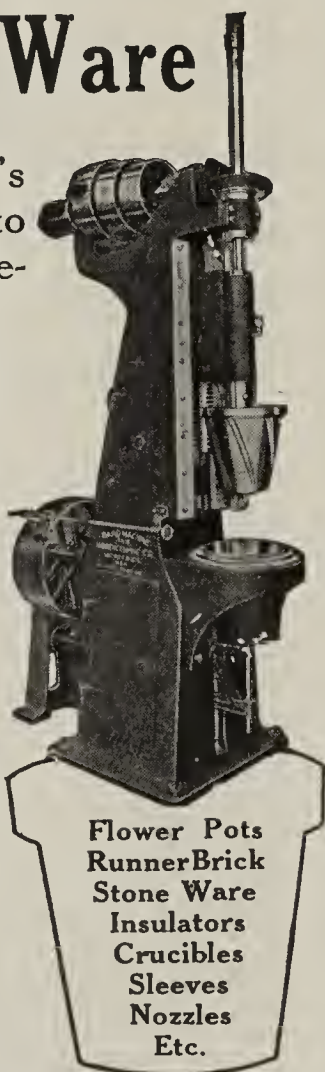
The popularity of Baird's Pottery Machines is due to their speed, simplicity of design, plus No. 1 ware.

The mould or head-piece of these machines always remains free from adhering clay. With the help of an ordinary workman, one of these machines will speed up production on easy selling ware, and increase your profits.

Send us a sample of your clay at once, and learn the possibilities of these machines. You will be surprised with the results. Write to-day to

Baird Machine & Mfg. Co.

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Flower Pots
Runner Brick
Stone Ware
Insulators
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Sleeves
Nozzles
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well pleased with present conditions as well as with the outlook for future business. The only thing which can bring about a change in the current market prices, he says, is a lowering of wages which cannot be well expected until the costs of practically everything else begin to show a tendency toward a general decline.

Sales of the Evans & Howard Fire Brick Co., St. Louis, Mo., during the month of March, have surpassed January and February by far. Very little decline in prices has occurred and the market was reported steady by the sales manager. The increase in business has not been remarkable, it was said, but the general increase during the past few months indicates a big clay products demand which will not be spasmodic. Shipments are good. With the increased number of orders an adequate number of freight cars have been supplied and no difficulty is expected.

The apartment hotel is the favorite type of building in the "Build Now" campaign, which is being fostered by building supply manufacturers, building tradesmen and architects in St. Louis, Mo. A. D. Gates, of the Gates Construction Co., will build a six-story brick, apartment hotel at 5440 Pershing Avenue. Another building which will result in contracts for St. Louis brick manufacturers is an annex to be erected to the Third National Bank Building. It will be a six-story brick structure and while the cost has not been announced, it is said to be in the neighborhood of \$200,000.

No changes in the prices of brick and other clay products are anticipated for the near future by St. Louis, Mo., dealers or manufacturers, according to Walter Pocock, secretary of the St. Louis Brick Manufacturers' Association. Inasmuch as the tendency to bring about increased wages for employees of the plants exists, Secretary Pocock says, there is little possibility for any drop in the prices of the products. He points out that the greatest item of expense to the manufacturer is the cost of labor. Unless labor becomes cheaper, he says, lower clay products prices cannot be expected. He adds that there is no reason to believe that labor is going to experience any drop that now can be foreseen.

New Jersey

The Hess-Goodwin Co., Belle Plain (Cape May County), N. J., has been incorporated with a capital of \$50,000 to manufacture clay products of various kinds. Rutherford B. Lilburn, and Charles P. Hess are the incorporators.

On March 10, 11 and 12, a special meeting of the salesmen of the Thomas Maddock's Sons Co., Trenton, N. J., was held, at which matters of importance were discussed and general business conditions reviewed. It was the consensus of opinion that with the coming of spring business will develop in considerable volume.

At Trenton, N. J., the Trent Brick Co. has cleaned and brightened things for the anticipated season's production, and in company with other plants in this well known brick producing section, expects to inaugurate operations as soon as the weather settles to a point to insure good outdoor drying. In the Trenton district, prices are running from \$12 per thousand upwards at the yards for the little stock now available.

Building and trade conditions so carefully considered by many factors in the brick and clay industries, do not seem to have any effect on the operations of the Independent Brick Co., which is producing at its plants at Bordentown, N. J., under near normal conditions. The company's out-

put is sold in large quantities in neighboring vicinities, as well as in adjoining states. A fine, hard common brick is manufactured, and the high character of production has been well shown in months past by the large demands of the Government on this company. The Emergency Fleet Corporation, alone placed orders running into the millions.

At Hackensack, N. J., with things in good shape for a resumption of operations, the start of the different yards seems destined to be brought about by actual demand—that is, orders on hand or in sight before the commodity is ready. Good mild spring weather has an encouraging stimulus, and those who now profess an intention to wait may more than likely change their minds within the next few weeks. I. E. Gardner, one of the leading producers in this section, has made ready for production at his plant and plans to inaugurate operations at an early date. But a small stock remains on hand at this yard, and the high grade of common brick produced is constantly in demand from regular customers. Brick is selling for \$14 per thousand at the yard in this district.

The prices of common brick in different parts of New Jersey hold firm at present levels, and those in the trade well informed on this point maintain that there will be no recession, at least to amount to anything, in the months to come. At Newark the prevailing price for good, hard common brick, delivered, is \$19.50 per thousand, while at Passaic and Paterson the quotation is \$17, delivered. At Newark fire brick has again reached a \$68 level for good No. 1 stock, and at Paterson there has just been a decline from \$80 to \$70, delivered. Stocks hold up well, and with the forthcoming spring run of brick at the different New Jersey yards, as well as in the Hudson River district, there is no apprehension that the demand will exceed the supply, even tho spring building work is likely to make a great inroad on the stocks of common brick, as well as other burned clay products now on hand.

That building work is about to "bud" to the anticipated degree in New Jersey is shown by the fact that the Tenement House Commission is in receipt of a number of plans calling for the construction of small brick tenement houses—the first that such application has been made in about a year. This indicates that a start has been made and is a decidedly encouraging feature. The structures will vary in cost from \$20,000 upwards. A notable project brought to light in Newark is the proposed addition to the Robert Treat Hotel in this city to cost about \$1,000,000. Guilbert & Betelle, local architects, are preparing preliminary plans for the structure, which will be of brick, terra cotta and stone. At Paterson, a new brick motion picture theater is planned. The structure is estimated to cost \$500,000. A similar building is also planned at Newark. The Elizabeth (N. J.) General Hospital is having plans prepared for the erection of a four-story brick addition, about 50x100 ft., to cost about \$500,000.

The building situation continues to brighten in different parts of New Jersey. The increase in activity during the past few weeks at different centers such as Newark, Jersey City, Paterson and Passaic, Trenton, etc., is distinctly noticeable, and unquestionably those in the trade are in a far happier frame of mind. The big demand is for apartments and dwellings, available quarters of this nature to be purchased or leased are at a minimum, and the stagnation in building during the year past is now showing its effects. There must be housing accommodations and this means actual construction work. For this reason, if for no other,

INSURANCE AGAINST FIRE At Actual Cost

The Manufacturers of Clay Products at Reciprocal Insurance Bureau, offers you an opportunity to come in and insure against fire with preferred risks that are of your own class and engaged in the same line of business. This Bureau saves you the expense of paying for (1) enormous overhead, (2) agents' commissions, (3) companies' profits. You are assured of greater safety, co-operative assistance of a practical kind, and better service.

A large Brick and Tile plant owner writes:

"We can truthfully say we have never had more prompt and satisfactory adjustment of claim than in this case."

Write us for rates and our plan to render better service and greater safety.

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Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

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"We have been using at our two factories for the past year, Barium Carbonate made by the Rollin Chemical Company. This material is used to prevent scum and has proved entirely satisfactory."
THE UNITED STATES ROOFING TILE CO.
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IMPROVE YOUR WARE

It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

Write us now.

The Rollin Chemical Co.
 Charleston, W. Va.

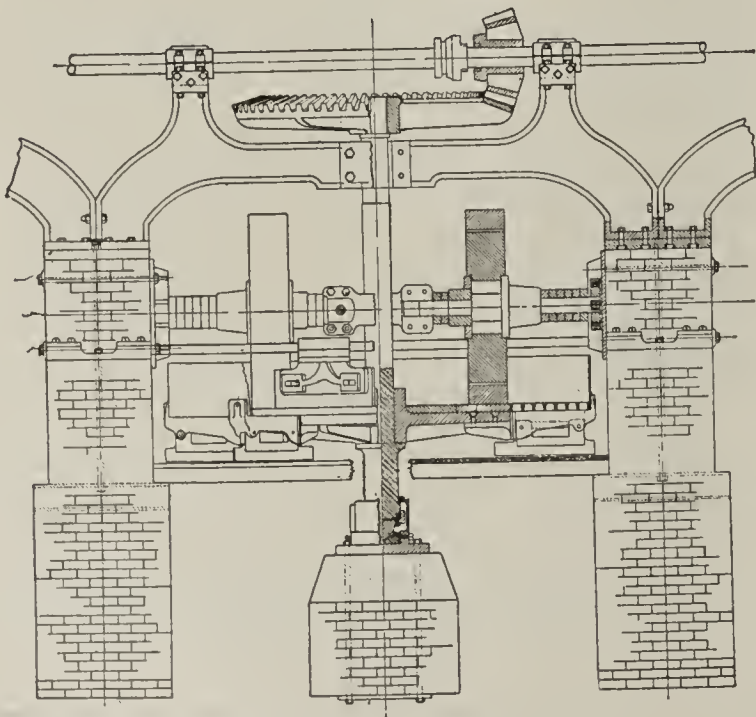
BRICK MUST HOLD UP ITS REPUTATION

The "MEANS" 9 Ft. Dry Pan

is being chosen for the reduction of clay and shale by successful claymen because careful comparison with other makes, and records of their performance, show the "Means" to be the best. Special features are the improved step and toe, and adjustable bearings.

In addition to dry pans we manufacture all equipment required in sewer pipe and tile plants, and our special goose-neck attachment for the sewer-pipe press affords a means of making brick directly from the press. Write us.

The Toronto Foundry & Machine Co., Inc.
 Toronto, Ohio



manufacturers of burned clay products of all kinds and building material concerns view the outlook with a feeling that the turn in affairs has come, and that the spring season, now about here, plus the urgency for construction is bound to bring results. Necessary institutional buildings for various municipalities are still another important factor; schools, hotels, public homes and various other such structures are needed in many quarters, and plans are under way to a point that indicates early construction.

There is not quite the same enthusiasm in the different brick producing centers of New Jersey as found under normal conditions. While brick plants at Hackensack and Trenton have arranged things for the regular spring run, there is considerable doubt as to just how far production should go, and it is more than likely that decreased output will prevail at many of the plants. In the first place, altho the building situation is brightening up, the actual demand for good sized quantities has not as yet ensued, and while there is considerable talk, what the brick men want is real evidence that the demand is assured. Many, and quite naturally, would prefer to have their plants idle thruout the season rather than be compelled to operate in a spasmodic way under decreased production, with the heavy overhead costs going on all the while. Then, again, why hurry production with the coming of spring with this uncertainty in the air? These are the thoughts that the brick manufacturers have as the time to inaugurate production draws near, and consequently, it is not likely that manufacturing will start off with any general accord, or quite as promptly as in years gone by.

To show the faith that progressive building material dealers have in the forthcoming demand for burned clay products, the accompanying photograph showing a view of the yard of the Campbell-Shultz Co., Passaic, N. J., is particularly interesting. This company is decidedly optimistic as to the



Ready to "Cop Off the Trade" at the "Crack of the Bat".

outlook and has stocked up well in anticipation of the forthcoming demand. As will be noticed in the illustration, the company, specializing in mason's materials, has a fine reserve of sewer pipe, hollow tile, conduits, fire brick and similar products, while in the rear of the yard, not visible in the picture, there is a large supply of common brick and other commodities. John M. Campbell, president of the company, is not a man who waits for things to develop, but he goes after them, and this is the spirit which pervades the entire business. Mr. Campbell belongs to all the important business organizations in this section, and is president of the local Rotary Club. In passing, it is interesting to note the

prevailing prices of hollow tile and partition tile, as quoted by the National Fire-Proofing Co. in this district, delivered: 3-inch hollow tile is selling for \$98.50 per thousand; 4-inch, \$109.50; 6-inch, \$153.30; 8-inch, \$197.10; 10-inch, \$229.90; and 12-inch, \$295.60 per thousand. As to partition tile, 3-inch is quoted at \$82.20 per thousand; 4-inch, \$87.60; and 6-inch, \$120.40.

One of the progressive brick manufacturing plants in northern New Jersey is that of the Hanover Brick Co., at Whippany, about four miles from Morristown. C. W. Ennis, of C. W. Ennis & Co., building material dealers, Morristown, is one of the heads of this company, and has given considerable time and energy to the advancement of the fine quality of material produced. The plant represents an investment of close to \$265,000. It is equipped with a Scott drying system, and said to be the only one of this kind in use excepting an installation at Knoxville, Tenn. This system has proved not only highly effective, but distinctly economical in production, and has cut the cost of manufacturing in this department of operation. The plant is equipped with four kilns, and has a total capacity of about 23,000,000 brick per year. Employment is given to about 50 persons for the manufacture of good, hard common brick, silica brick, and a semi-vitreous brick. This latter has proved to be a particularly high-grade commodity for various purposes, and is much in demand. The plant has a stock of about 5,000,000 brick on hand at the present time. In speaking of the present-day cost of doing business, Mr. Ennis makes an interesting reference to the existing freight rate between this plant and Morristown, the point of general distribution; this rate is \$23.79 per car, which is certainly an almost prohibitive one for a distance of only four miles. The actual cost of production at the works at the present time is \$12.33 per thousand.

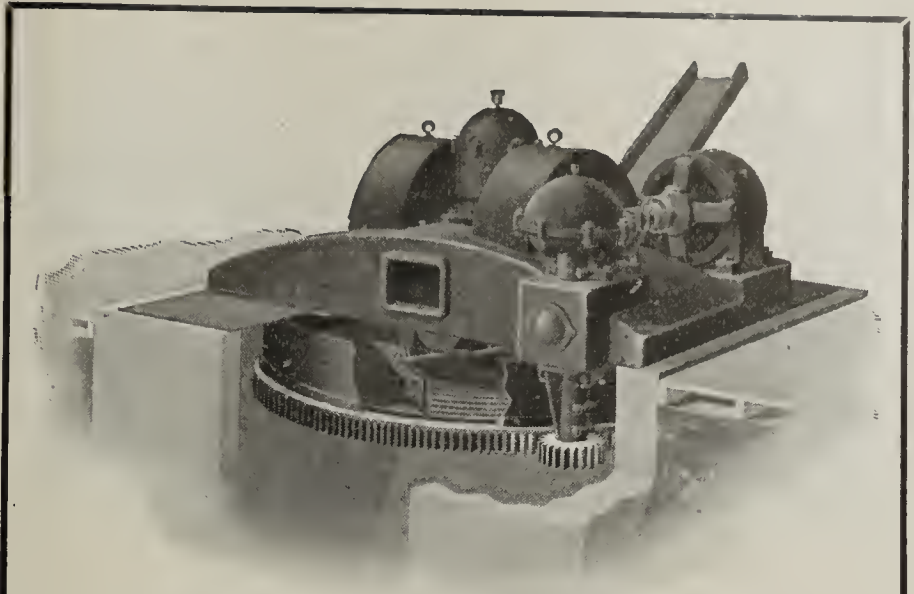
New Mexico

It is reported that there may be a reduction in the price of prison made brick at Santa Fe, N. Mex., to aid the promotion of building operations in all parts of the state. The legislature has made provisions for a new brick plant and motor trucks for hauling the clay, and conditions are such that a reduction in the price of brick is permissible so as to give an impetus to building operations. Before the war, the penitentiary furnished brick at prices that compared favorably with prices elsewhere and made money at that, but since then the prices have almost doubled until now a thousand brick cost \$15 f. o. b. at the penitentiary, as against \$8 a thousand not so long ago. It is reported that the price will be reduced to about \$12 a thousand.

New York

There is little to report in the Hudson River brick manufacturing district. While numerous plants are in good position to operate, there is little incentive to inaugurate production on anything like a profitable scale. It is quite likely that different yards will defer activities until the season is more advanced, or until the actual conditions which are to ensue are definitely known. No cargoes have been shipped in the past weeks, and with the good supply on hand at New York, there is no immediate call on the producers. The situation, tho not entirely encouraging, has its bright spots, and progressive plants will, in all likelihood, start things going if only in a small way, when good weather is assured.

These are quiet times in the wholesale brick market in New York. There is literally "nothing doing," and but few



Model A 300—Patent applied for
Dry and Semi-Dry Grinding Machine

Machines for

Crushing, Grinding, Pulverizing, Empounding, Tempering and
Mixing, Elevating and Conveying All Kinds of Materials.

STEAM PRESSES FOR MAKING

Sewer Pipe, Drain Tile, Hollow Blocks, etc.

All of the highest class designing and construction
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SAUERMAN DRAG LINE CABLEWAY EXCAVATOR

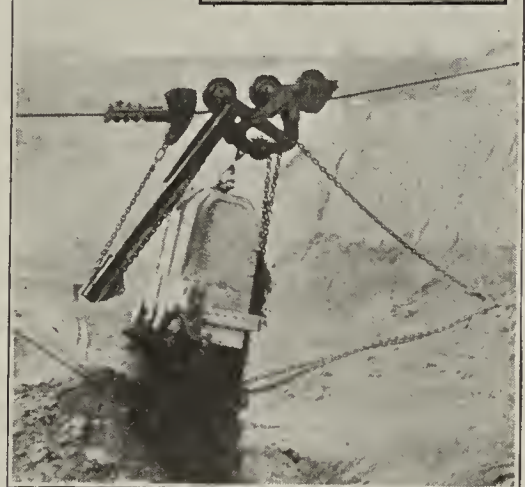
is a one-man machine which connects the clay pit with the plant and digs, conveys and dumps the clay in one continuous operation. It does away with the shoveling gang and the cars, locomotive, track, etc., that are required when other kinds of excavating machines are used.

Here's Example of Economy of Sauerman Outfit in Clay Plant:

The problem confronting one large Ohio brick manufacturer was to find the most economical means of getting the clay from a large hill and delivering to the plant situated in the valley. The method first tried out involved the use of a steam shovel with cars and horses to haul the clay to the plant and required the employment of six to eight men.

The Sauerman outfit which has taken the place of the shovel and cars, digs the clay from the hill and conveys it to a hopper from which a car runs up and down a short incline to the plant. Two men constitute the entire operating force.

The small picture shows the bucket digging a load near the top of the hill. The bucket loads in a few seconds, then the drum carrying the load cable is released by the operator of the double-drum friction hoist on the hill-top and the loaded bucket returns down the track cable by gravity to the hopper 500 ft. away in the valley. The large view shows the quick, sure, automatic dumping action of the bucket.



This low-end dump type of installation has proved to be a perfect solution of this clay-digging problem. Our other type of outfit, dumping at high end of cableway, is equally successful where the clay has to be delivered to a point higher than the place of digging. What is your problem?

Catalog free on request.

SAUERMAN BROS.

316 S. Dearborn St., Chicago

Mfrs. Cableway Excavators, Power
Scrapers and Cableway Accessories



THE BUCKEYE

will dig anywhere

It will dig dried hard soil, or work where the clay is soft most of the year. It will deliver the clay on top of the pit, or down in the bottom, whichever is more efficient at your plant.

One man operating a BUCKEYE TRACTION DIGGER can dig and load 240 carloads in ten hours. This raw material is thoroly mixed, broken fine, and practically ready for the pug mill.

And this operation, which usually requires several machines, is accomplished at practically no expense for power, grease or repairs.

Send for our illustrated catalog, which describes fully the operation of this labor saving machine.

THE BUCKEYE TRACTION DITCHER COMPANY

Findlay, Ohio

transactions of cargoes are being made. There is no variation in wholesale price, being \$15 per thousand for good grade material in cargo lots at the docks. As has been the case for many months past, there is no quotation on brick from the Raritan River section, and no material of this character is in the market. Second-hand brick in loads of 1500 is bringing about \$15, delivered. Prices are decidedly firm, and there is no likelihood of any recession in the immediate future. It is currently reported that about 5,000,000 common brick are now being held in the New York market for direct wholesale account, with prospects of a reduction of this supply within the coming weeks, as the spring building movement proceeds.

Brick and other burned clay building materials show no noticeable price fluctuations in New York. Present levels are well maintained, and no drop is in sight. In the opinion of prominent men in the industry, existing quotations are here to stay, and any recession to ensue in the months to come will hardly compensate the prospective builder in deferring actual construction work with a hope of lower prices in mind. Good, hard common brick is selling around \$18 per thousand, delivered on the job, while face brick varies from \$37 to \$46 per thousand, according to different varieties; reds are selling for the lower figure, buffs at \$42, and rough and smooth grays at \$45 and \$46; Colonial brick is quoted at \$25. Interior partition tile holds at prices ranging from \$64 for 2-inch, and \$153 for 6-inch, per thousand square feet, delivered on the site.

The building situation at New York and vicinity continues to improve. The activity is of gradually increasing growth, rather than a spasmodic burst, and which of course is far more desirable than an immediate abnormal demand with lessening interest as the season progresses. Up to the last week in March a total of 365 building contracts were awarded during the month, aggregating over \$16,000,000 in cost; in this same period, plans for close to 1,000 building projects have been developed, and many of these now placed in actual preparation, with the total valuation estimated at about \$45,000,000. Calls are being made on contractors for estimating completed plans, and over 250 such enterprises are now being figured, with cost valued at approximately \$17,000,000. This state of affairs is distinctly encouraging after the long lapse in construction work, and a continuance means a slow but sure revival of building operations in all parts of this eastern district. A large number of the projects noted cover state, federal, and municipal structures, and call for brick and terra cotta in numerous instances. Materials of this same nature are also required for proposed schools, churches and theaters, as well as hotels and club buildings. Housing work is another feature which bids fair to develop to a point of big activity, and like other sections of the country, New York and adjoining boroughs are in great need of living accommodations.

Ohio

The Savage Fire Clay Co., of East Liverpool, Ohio, has been chartered with a capital of \$30,000 by I. M. Smith, Marcella Fowler, E. H. Lockhart, W. S. Foulks and V. Calloway.

The Columbus (Ohio) Fire Brick Co., agent for a number of clay products manufacturers, has moved its offices from the Hartman Building, to 16 South Third Street. Emmet Howard is general manager of the concern.

The Columbus (Ohio) Builders' Supply Co., which was organized about ten years ago, has moved into its own building at Long and Front Streets. The offices and show rooms are located at that place. The yard and warehouses remain at Dennison Avenue and Maple Street.

Charles Frank, sales manager of the Nelsonville Brick Co., of Columbus, Ohio, visited the plants of the company at Nelsonville recently. It is reported that the paving brick situation is getting better right along and that there are quite a few prospects of large paving jobs.

The common brick market in Ohio is rather quiet, due largely to the small demand for that class of product, but the spurt of building which is close at hand is expected to make the trade much more lively. Common brick prices remain firm in every particular. The prevailing price in Columbus is \$18 for the better grades.

There are quite a few school houses being projected in Ohio territory. Every few days plans are announced for another school building and as a result brick salesmen are busy on that kind of business. Many of the structures which were held up because of the war will be allowed to proceed.

J. A. Smith, president of the Climax Clay Co., at Bessemer City, N. C., has announced that the company will erect and operate a new clay washing and drying plant. The concern has been formed with a capital stock of \$50,000 and will install machinery to produce washed clay for pottery and paper making uses.

The annual convention of the Ohio Paving Brick Manufacturers' Association will be held at the Deshler Hotel, Columbus, starting at 10:00 a. m., April 10th. The program for the meeting has not yet been made up, but it will contain a number of interesting talks on the paving brick situation. A number of matters are to be considered by the meeting and officers will be elected. A banquet has been arranged for one evening.

In a proposal before the council of Lakewood, suburb of Cleveland, Ohio, brick and building supply interests of that district see greater outlet for brick and similar material in future construction. The proposal is for the adoption of a building code similar to that of Cleveland. A special meeting is planned to consider sections of the Cleveland building code, and according to present plans these will be adopted, with minor changes, to suit local needs.

Brick and other clay products interests of Cleveland, Ohio, are coöperating with the Cleveland Builders' Exchange in its endorsement of the plan for adjustment of jurisdictional questions in building construction thru a national tribunal. At a special meeting of representatives of material dealers, contractors, building trades unions and other factions of the industry, the plan will be considered for adoption, and at which meeting representatives of the department of labor of the United States will be asked to be present.

Belief that outside help, which means assistance from America, will not be used for the present at least, is expressed by C. W. Lundoff, of the Crowell-Lundoff-Little Co., Cleveland, Ohio, and president of the Cleveland (Ohio) Builders' Exchange, following his return from a tour of inspection of the war-devastated district of France. Immediate chances for America to take part in reconstruction, says Mr. Lundoff, are hardly possible, as much yet remains to be done by European countries suffering from the war before actual reconstruction can start. It is his opinion



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Where the service is hardest in your Brick Plant.

This stitched canvas belting more than meets the modern brickman's demand for efficient transmission, conveyor and elevator service.

It is backed by 30 years of experience in Brick and Clay Plants.

Specify SAWYER.

United States Rubber Company
MECHANICAL GOODS DIVISION



THWING

HIGH RESISTANCE MULTIPLE RECORD

PYROMETERS

in

Brick Plants



Typical mounting for thermocouple in the crown of brick or pottery kiln. The porcelain protecting tube projects one inch into the kiln and the hot point of the thermocouple is further protected from the direct action of the gases by cementing the protecting tube in a 3-inch sewer pipe. The ventilated chimney outside protects the thermocouple connections from the weather.

A Typical Instance of What They Are Doing:

The Hocking Valley Brick Co., Logan, Ohio, has been using Thwing Pyrometers for the last two years in 30 kilns in which shale paving brick is being burned at from 2,050 to 2,100° F. The permissible range is from 40 to 50° when on high fire, but the temperature then seldom varies more than 25 or 30°.

The use of the Thwing System here has resulted in a saving of both time and fuel, and previous trouble from overheated kilns has been reduced to a minimum.

During the entire two years only one thermocouple has been renewed, this renewal being necessary only because of damage in a storm. The whole Thwing Pyrometer System has proven thoroughly reliable, has stimulated the firemen to more careful efforts, and since the extreme shortage of labor has been of the greatest value in getting good work from inexperienced men.

Equally satisfactory performances which we could cite by the hundred would not be half so convincing as a trial in **your own plant**. Let us submit you interesting data and costs.

THWING INSTRUMENT CO.
3336 Lancaster Ave. Philadelphia

31

that these countries will attempt to do their own rebuilding themselves, for the early part of the program at least.

According to the report of the Columbus building department for the month of March there were 295 permits issued having a valuation of \$281,670 as compared with 236 permits and a valuation of \$378,810 in March, 1918. During the first three months of the present year the department issued 557 permits having a valuation of \$976,500 as compared with 366 permits and a valuation of \$615,835 in the corresponding period last year. This shows the trend of building operation in the Buckeye Capital where there is a serious shortage of homes. It is estimated by real estate men and builders generally that there is a shortage of from 1,500 to 1,800 homes in the Buckeye Capital.

Advices from banking and allied interests, as to the financial situation in relation to stimulated home building in the Cleveland (Ohio) district, now are coming forward. According to H. C. Robinson, vice-president of the Guardian Savings & Trust Co., at a special meeting of the Cleveland Real Estate Board, if a plan now being considered by Cleveland banks is adopted, much more money will be released for building of homes. According to Mr. Robinson, for years it has been the custom of banks here to allow mortgages to ride upon mere payment of interest. Mr. Robinson now has advanced the plan, and it is said to meet with favor by other bankers and realty and building material interests generally, which calls for a bank mortgage to be reduced a certain sum annually. It is claimed that much more housing can be financed with the money thus returned from thousands of loans now out.

Face brick factories in the Hocking Valley district of Ohio are preparing to start operations during the month of April. All of the plants are being put into condition and the necessary repairs are being made. It is believed that practically all of them will be going the latter part of the month. The wage scale is the big thing at present and a good deal of discussion has resulted. One of the larger companies has made an agreement to start work by figuring out a sort of coöperative wage scale to last for three or four months. This scale is based on the present cost of about ten of the principal necessities. When the prices of these necessities change the wage scale will change likewise. Generally speaking, wages will range from 50 to 75 per cent. higher than before the war. The ordinary day laborer will get about 33½ cents an hour instead of 22½ cents or thereabouts. Kiln firemen will receive a good advance as will engineers and skilled workmen. As long as the coal industry in the Hocking Valley is quiet there will be plenty of labor available at the brick plants, but with the mining game becoming more active, labor will be drawn from the brick factories to the mines, because of the higher wage scale.

Brick manufacturers in the vicinity of Steubenville, Ohio, have lodged a protest against the proposal of the city officials to pave Fifth Street of Steubenville with wood block. The brick men hold that the city should support and encourage its home industries and point to the fact that there are twenty-four brick and allied clay making plants in that immediate vicinity, employing approximately 2,000 men with an average payroll of \$260,000 per month. The brick men have no "hammer" out for wood block. They readily admit that it is good paving material, but they insist that brick, properly laid on a substantial concrete foundation, makes the most economical, practical and enduring paving. "The

miserable streets of Steubenville cannot be blamed on the brick," said one manufacturer. "Never until these present specifications were drawn up has there been any attempt at 'real' paving in this city. They laid the brick in sand and gravel, tore them up every whip-stitch, never re-laid them properly and the result is what we have today." Bids received by the city show that wood block will cost \$10,000 in excess of brick for the paving of Fifth Street. It was recalled that Steubenville experimented with wood block a number of years ago, several squares being paved with it and it was torn up when it was practically new because the citizens were unable to bear the stench that rose from it on hot days.

Pennsylvania

A tabulation of the questionnaires sent out to builders, architects and affiliated interests in Pennsylvania and other states by the Department of Labor, Washington, to ascertain conditions and information regarding building conditions and forthcoming projects show that in this state 454 private projects of various kinds are planned, with estimated cost placed at \$48,341,368; the public projects aggregate 206, with estimated valuation of \$68,103,295. In a neighboring state, West Virginia, the number of projects cover 35 enterprises, valued at \$6,763,500; and public projects to the total of 57, with estimated cost of \$9,645,362.

Tennessee

The Lexington (Tenn.) Brick & Tile Co. has been organized with a capital stock of \$12,000, by T. A. Mochs, J. W. Threadgill, L. T. Fielder, A. E. Beasley, H. E. Graper, W. H. Lancaster, and J. S. Fielder. It will manufacture brick and tile.

Canada

John Price Ltd., Toronto, Ont. plans the construction of several new kilns.

The Ontario Sewer Pipe and Clay Products Co. Ltd. has been incorporated with a capital of \$300,000.

The National Brick Co., Ltd., Montreal, Que., is planning to open its plants at Delson and Laprairie in April.

The Ontario Sewer Pipe Co., Mimico, Ont., contemplates additions to its plant. Andrew Dods is manager.

Clay Products Agency, Ltd., Toronto, Ont., has been incorporated with a capital of \$100,000.

The brick plant of Price-Cumming Co. Ltd., West Toronto, Ont. has been placed in operation.

The London Clay Products Co. Ltd., London, Ont., has been incorporated to take over the London Brick & Tile Co. S. R. Walsh, formerly with the Main Belting Co., and C. S. Parker, are the main shareholders. They have installed a new plant and built new dryer and kilns. They are manufacturing stiff-mud and drain tile, the first kiln being opened on March 24.

It is rumored among clay products supply dealers in Toronto that the prices of vitrified clay sewer pipe, brick and tile are to be advanced to meet the increased cost of labor and fuel. Many manufacturers who had large stocks on hand before the war have been giving their customers the advantages of pre-war prices. These stocks are now nearly exhausted and they cannot be replaced at prewar prices. The price of fuel plays a vital part in fixing the price of vitrified products and both fuel and labor have greatly advanced in price.



the never-slip — never slack — original stitched cotton duck belt.

You can gauge my calibre from my "references."

(Names on request)

"Pulled a plant 27 years and still running."

"Running two main drives for 14 years—another for 20 years—same plant."

"On the job continuously for 20 years and still doing good work."

"Giving service that can't be obtained from leather."

"Excellent service on the hardest drives known"—etc. etc.

Power or Conveyor—I'm made in a size and ply to fill all jobs—and get all the pull from the pulley.

Send the word to Mill Supply House or Home Plant direct—and I'll report for duty promptly.

"On-the-Job" Gandy

The Gandy Belting Co.

732 W. Pratt Street Baltimore, Md.

New York Branch: 60 Warren Street





Lock Out Your Lamp Troubles with a Flexco-Lok Guard

Stop the unnecessary waste of electric light bulbs through breakage and loss by theft.

Flexco-Lok Lamp Guards

are easy to adjust and can be removed only by use of the key provided free with every dozen guards.

They are made of light, expanded steel, well coated with tin. No wires to spring or bend—the halves swing outward from a strong hinge at the base.

Flexco-Lok Guards safeguard your employees and work in progress from the danger of broken glass; they reduce fire hazard to a minimum, and they cost less than a single broken or stolen lamp.

A Convenient Portable Light

The Flexco Split Handle is quickly fastened to a Flexco guard, coupling with it as a unit. It makes a convenient and safe portable for carrying light to inaccessible places. The Lamp cord runs thru the split handle. Requires no rewiring of the socket to which the guard is quickly attached.

Write for catalog and price list.



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Chicago, Ill.

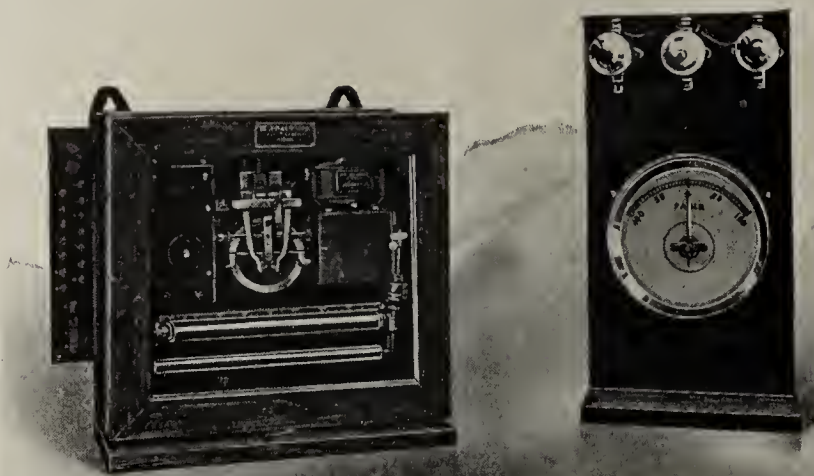
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Descriptions of Machinery and Accessories
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A Recording and Signalling Pyrometer

The most accurate instrument for use with a thermocouple for measuring temperatures is the potentiometer, with which a zero or balance method is employed, that is, a known electromotive force is balanced against the electromotive force of the thermocouple, the balance being obtained when the galvanometer stands at the no-current position. In this way variations in the resistance of thermocouples, lead wires and galvanometers are eliminated from the measurement, and where base metal couples are used, it is also possible to bring the cold junction of the thermocouple back to the potentiometer, where its effects can be compensated for automatically.

Zero methods, however, require external power for the balancing of the circuit. This can be applied by hand, a contact being moved along a potential wire or resistances plugged in or out, until the galvanometer comes to neutral. In automatic recorders, however, this power must be supplied from an external source. In the Leeds & Northrup Recorder, shown herewith, galvanometer boom serves merely as a mechanical trigger, by means of



Leeds and Northrup Recorder

which a part kept in constant reciprocating motion by a motor is enabled to adjust the potentiometer circuit.

The power of the motor is sufficient, not only for making these adjustments, but also for operating the chart drum or paper roll and for moving the pen or printing wheel by which the record is made. It can also operate switches for controlling signal lamps at a distance for the guidance of the operator; also a contact on a slide wire by means of which the large visible pointer at the furnace will show how much the temperature is "off" from the desired standard.

By having a selector switch operated by the motor, the potentiometer can be connected alternately to two different thermocouples, whose temperatures will be recorded and signalled alternately. The chart will then show not only each of the temperatures, but also will exhibit graphically the difference in temperature, a factor often of considerable importance in the operation of furnaces and kilns.

Multiple recorders are also constructed, fitted with selector switches by which any number of temperatures

up to 16 can be recorded upon one chart. Each dot made by the printing wheel is accompanied by a number designating the corresponding thermocouple. Due to the fact that in the potentiometer no current flows thru the thermocouple and lead wires at the moment of measurement, the different thermocouples can be located at any distance from the recorder without affecting the accuracy of the measurements.

* * *

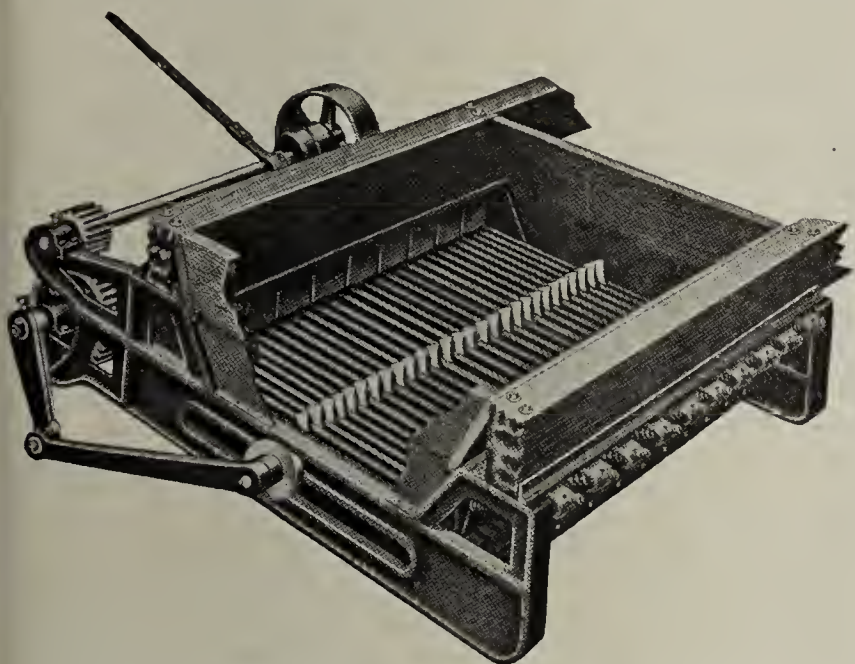
Davis Brown Back with American Clay

For years Mr. Brown was with the American Clay Machinery Co., but more recently he has been with an out-of-town concern. Now he is back in Bucyrus and again connected with the American company. His many friends will welcome him heartily. Mr. Brown started his career with the old Frey Sheckler Co., in Bucyrus, and he just naturally belongs in that city and with the American company.

* * *

Berry Stone Separator, Pulverizer and Feeder

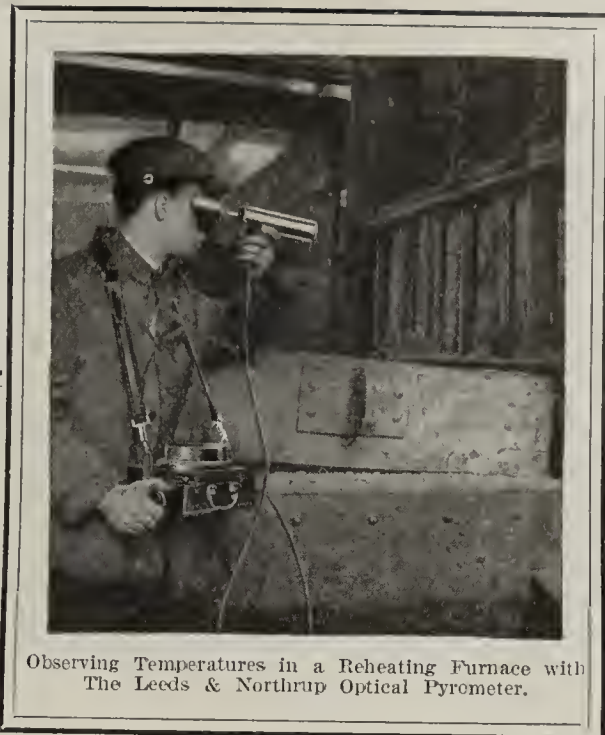
During the connection of the individual members of the Manufacturers Equipment Co. with the clayworking industry, extending over a period of 30 years, one of the hard problems, unsolved until today, which they have encountered hundreds of times in certain clay plants, has been the perfecting for installation and use of a machine



Berry Stone Separator, Pulverizer and Feeder

to prepare for the manufacture of clay products, soft surface clays, alluvial or glacial clay deposits which are combined with lime and gravel stones ranging in size anywhere from that of a pea to as large as a walnut, egg, or even that of a man's fist and larger. In fact, that is a condition of the clay in hundreds of plants thruout the United States for which no one has heretofore been able to bring out anything in the equipment line proving to be an absolute success, either in an individual machine or a combination of machines, whether it has reference to conical rolls, smooth rolls, equal rolls, disintegrators, patented clay cleaners, etc. Many of these plants by reason of the stony clays have not only operated at a loss, but a majority of them have ended in complete financial failure.

The Manufacturers Equipment Co., Dayton, Ohio, have given much time and attention to this problem during many years and have finally solved it in the Berry Stone Separator, Pulverizer and Feeder, in which clay dug from a bank containing lumps varying in size, together with roots, stones and other heterogeneous material is mechanically treated to disintegrate the lumps, remove the roots and stones or other irreducible content, and prepare it for the making of clay products.



Observing Temperatures in a Reheating Furnace with The Leeds & Northrup Optical Pyrometer.

From Dull Red to Sun Temperature

Any body that emits a visible glow, from dull red up to the temperature of an electric arc or the sun itself, shows its temperature quickly and accurately in the Leeds & Northrup Optical Pyrometer.

A tungsten lamp filament is seen superposed upon the hot object. The current through the lamp is varied until the filament vanishes in its background, upon which the current is read by an electric milliammeter.

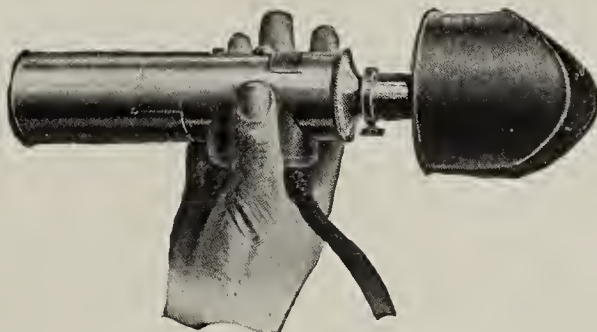
As brightness varies 15 to 20 times more rapidly than does temperature, and as the eye is very sensitive to differences in brightness between superposed objects, readings taken by different observers with the Leeds & Northrup Pyrometer, check within 3 deg. C.

Due to the use of suitable intercepting screens, the eye is protected from too intense illumination and is not blinded or injured, nor is there any discomfort, even when measuring the highest temperatures. Light of only one color reaches the eye and color blindness does not interfere with the use of the instrument.

The instrument is as easy to sight as an opera glass. The size of the object or its distance do not matter.

The Leeds & Northrup Optical Pyrometer is recommended for taking the temperatures of any object in furnaces or in the open air. Objects enclosed within furnaces give true temperatures, while objects under open air conditions give relative values which can be converted to true temperatures, if necessary, by known correction factors.

State the proposed conditions of use and full particulars with descriptive Bulletin No. 860 will be sent.



The Leeds & Northrup Optical Pyrometer.

THE LEEDS & NORTHRUP COMPANY

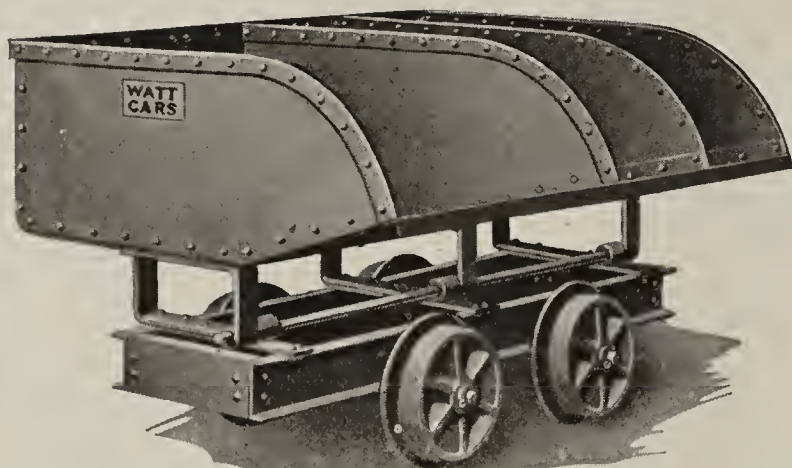
4909 STENTON AVENUE
PHILADELPHIA, PENN.

Makers of Electrical Measuring Instruments, including indicating and recording thermocouple, resistance pyrometers, condensers, galvanometers, Wheatstone bridges, testing sets, etc.



What's This?

Just one busy corner of the Engineering Department, showing some of our specialists working out an economical haulage system for one of their customers.



No. 1098-B

Here is a special job—a result of designing a car just suited for the job. This is a charging car with partitions, for handling proportions of mixtures.

Write today for what you may require, and let us suggest some appropriate designs. No obligation.

The Watt Mining Car Wheel Co. Barnesville, Ohio

DENVER OFFICE: Lindrooth, Shubart & Co., Boston Bldg.
SAN FRANCISCO, N. D. Phelps, Sheldon Bldg.

Write today for our latest and most complete book published on cars.

The machine is very simple and durable for the purpose, and the mass of clay and other material may be delivered into it by cart or dump car. The clay is discharged from it in a controllable stream, in a pulverized condition, free from stones, roots or other irreducible materials which go out as waste, leaving clean clay ready for the next operation. The machine applied to the preparation of clay as above described becomes at once a stone and root separator, a pulverizer, a disintegrator and a feeder.

In support of the evidence above presented, this machine is today in practical successful operation and has been for a period of two years. This machine has solved a most serious problem and many clayworkers who have stony clays to handle should be intensely interested in this new piece of equipment for the clay plant as it will help to make better ware, reduce maintenance costs and bring about more profitable operation.

✻ ✻ ✻

A Wisconsin Office

The A. P. Green Fire Brick Co., Mexico, Mo., has opened a Wisconsin office in charge of G. E. Ford, vice-president of the company. The office is located in the Merchants Bank Building, Milwaukee.

A new eastern representative has also been appointed—H. C. Thayer, formerly with J. G. White Engineering Co., his office being at 30 Church Street, New York City.

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"New Publication"

Causes of and methods of prevention of errors in pyrometer equipment have been given little or no publicity up to the present time, altho the failure and rejection of a large percentage of many products may be traced directly to such inaccuracies. This applies not only to the iron and steel industries, where pyrometers are used most extensively, but also to the ceramic industry and the chemical industry. In gas and steam making plants also, there are opportunities to increase efficiencies greatly by the use of pyrometers. Many of the most common errors found in pyrometer installations are due to simple causes which could be easily remedied if the user were acquainted with the necessary precautions to be observed in the installation and care of his instruments.

In a large number of plants the pyrometers are seldom or never checked. In many cases this lack of checking is because the user is not familiar with commercial checking methods and the necessity for using such methods.

These facts are brought out and thoroughly discussed in a new bulletin just issued by Leeds & Northrup Co., of Philadelphia, entitled "Checking Thermocouple Pyrometers." It discusses the importance of maintaining standards and of checking in pyrometry. It points out sources of error and the remedies for troubles in thermocouples, millivoltmeters, cold junctions and potentiometers. It outlines a commercial checking laboratory, including a special checking furnace, precision potentiometers and standard thermocouples. This bulletin is distributed free of charge and should certainly be in the hands of every manufacturer, the quality of whose product depends upon temperature control by pyrometric means.

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Care in making your shipments is just as important as care in the manufacturing process, and in fact, the entire efforts of your organization in producing first-class ware may come to naught by failure to properly protect the brick or other ware in transit. James A. Benson, 192 North Clark Street, Chicago, furnishes hay and straw for packing. "Shipments anywhere in the United States" is his slogan.

✻ ✻ ✻

Carl H. Zwermann, Newark, Ohio, has just completed the installation of one of his Zwermann Twin Tunnel Kilns at the plant of the Florentine Pottery Co., Cambridge, Ohio, and it will be put in operation in the very near future, as soon as the rest of the machinery is set up.

BRICK *and* CLAY RECORD

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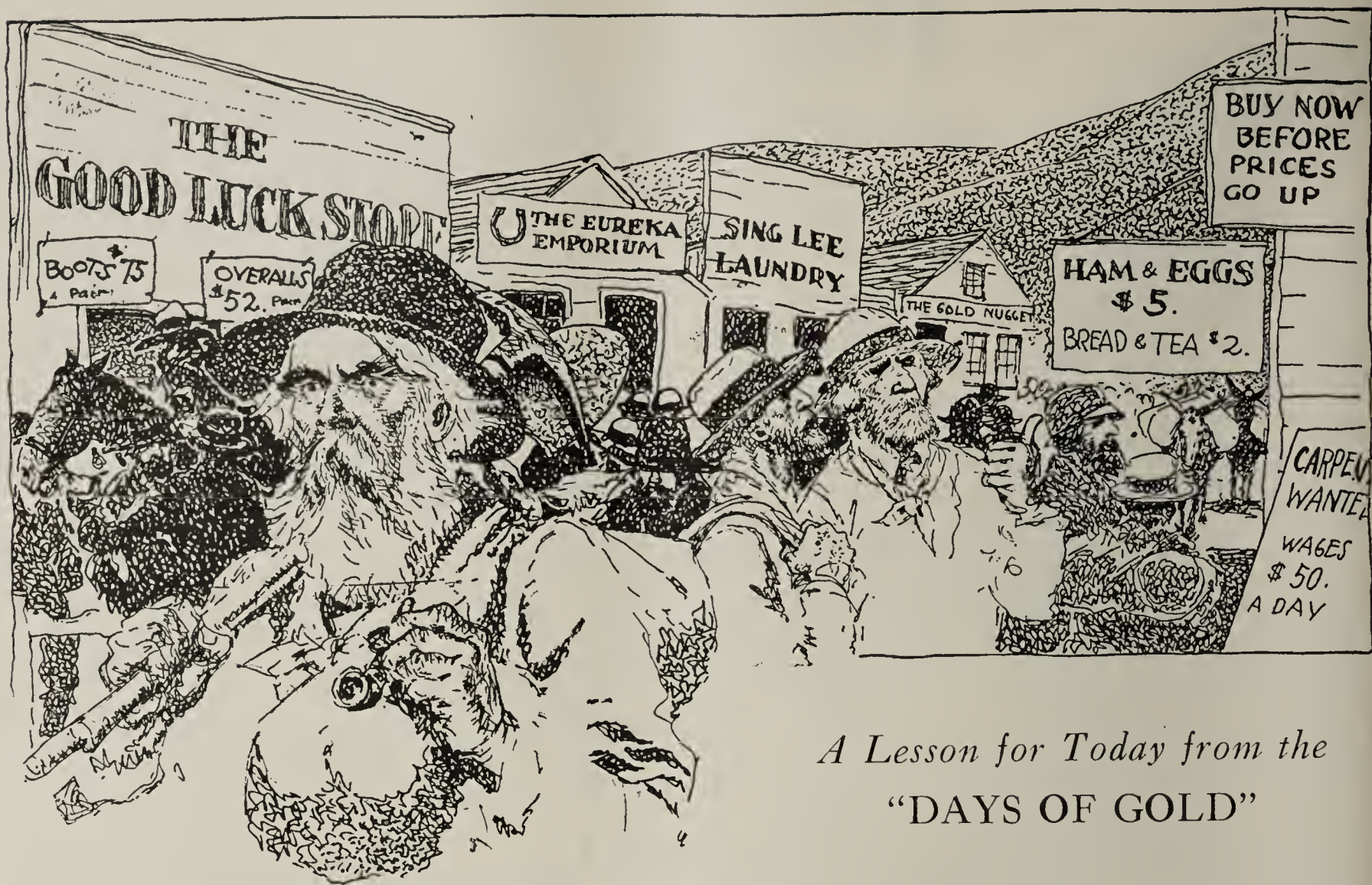
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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.



A Lesson for Today from the "DAYS OF GOLD"

IF YOU will read your history of California in the gold rush days of '49, you will find that one of the outstanding and most impressive features of the time was "high prices." You will find many amusing instances of the astonishment of the newly-arrived tenderfoot at the prices he was obliged to pay for everything he needed or desired. A plate of ham and eggs, \$5.00; a pair of boots, \$75.00; a bit of lumber, \$100.00; carpenters' wages, \$50.00 a day, and so on thru the whole list of "the market."

The chief reason for this condition in the gold fields in '49 was precisely the fundamental reason for our general high level of prices all over this country and the civilized world today, a relatively large supply of currency, a relatively small supply of goods or commodities, a great need of commodities.

Under the call of the prices which California was offering for commodities in those days of gold, all the world began rushing its surplus products to that profitable market.

The production of gold, however, was so great as to keep far ahead of the production of commodities, and it was only after a period of years that commodity prices

in California came to a level approximating those of older markets.

On the other hand, California was shipping gold to the older markets so rapidly that commodity prices rose in those markets to greatly higher levels.

In the last four and a half years the whole civilized world has been *destroying commodities* and *increasing currency*. Naturally, the prices of commodities measured in currency have gone up and the price of currency measured in commodities has gone down.

The economic history of the world clearly shows that in all similar circumstances the decline of commodity prices has been a *much slower* process than currency inflation, and in no case in modern history has the level of commodity prices ever returned to the level at which it stood when the inflation of the currency began.

One of America's highest economic authorities, Professor Irving Fisher, of Yale University, says in his paper read at the Conference of Governors and Mayors at the White House March 3rd to 5th, "Business men should face the facts. To talk reverently of 1913-14 prices is to speak a dead language today. * * * We are on a new high price level which will be found a stubborn reality."

LET'S GO!

National Prosperity Campaign, Commodore Hotel, New York.

The EDITOR'S CORNER

Start a "Build Now" Campaign

IT MUST BE EVIDENT to all thinking clay products manufacturers that something more than watchful waiting is needed to start the building boom on its way to bring a return of pre-war prosperity.

Just what is needed in the way of stimulus, need not trouble any progressive clay products manufacturer for the trail has already been blazed, and the way prepared by the Government and other interested parties. A "Build Now" campaign in your local town, city, or in markets in which you are interested, would do much at the present time to start the ball rolling. If no organized "Build Now" movement is underway in the territory in which you are interested, get in touch with the secretary of your Chamber of Commerce, and call a meeting of the leading business men of the city. Put the need for immediate action in stimulating local business up to them, point blank, and start a campaign.

Get the bankers to discuss some methods of financing a building movement. The contractor should go over the materials and labor situation. The nucleus of the campaign should be advertising in local newspapers. Posters, pasters, stickers, and other familiar vehicles should also be used. In this connection, a letter to the Information and Education Service of the United States Department of Labor, Washington, D. C., will bring a liberal supply of posters which can be placed at once. All who desire "copy" for newspapers, already prepared, together with illustrations, showing reasons for building now, *Brick and Clay Record* will be glad to direct you to sources of such material. If you are interested, write to the Editor.

A slogan should be adopted which should be printed on the envelopes and stationery of every concern in the city. It should be painted on banners and slung across the streets. It should be painted on empty billboards. Cards should be displayed in store windows carrying the message. Bill heads, invoices, newspaper ads, everything should contribute to fixing the idea of Buying Now, Repairing Now, Building Now, Painting Now, in the minds of the public.

You will find real estate men, building contractors, merchants, bankers—everyone in favor of these advertisements. They will all realize the value of such publicity, for so long as people hang on to their money, business cannot go ahead. Instead of prices

coming down we will run into a period of economical depression.

If the "Build Now" movement is already started, your work is simple. The campaign will fit with plans already laid.

Should it seem impractical for you to start a "Build Now" campaign, then get the real estate men together or the building contractors and present the plan to them. Or, there may be broad-minded men with the interest of the city at heart whom you can interest. You can get them to help you start things.

Since Congress failed to pass the railroad bill and other bills calling for immediate inauguration of public works, before adjournment, the Government is looking to stimulation of private construction and loosening of money in hands of individuals to get our nation back on a prosperity basis and bridge the transition period between peace and war.

* * *

Keeping in Touch With Labor and Economics Expert

CLAY PRODUCTS ASSOCIATIONS, particularly the strong national associations, have done very necessary and essential work in the past and their need would indeed be felt were they not in existence. Splendid work on advertising, cost accounting, freight rates, and other matters, has been done, much to the credit of each organization.

Thus far none of the associations, so far as is known, have used their offices as a clearing house for problems on labor and economical conditions. While it is true that these conditions vary a great deal in different sections of the country, nevertheless, there are many principles on the situation between capital and labor that apply to all plants. For instance, in arriving at a new wage scale for your workers for the coming season are you looking for a decrease in cost of living and therefore holding up on wage increases? Do you expect labor to be plentiful or scarce? What attitude are you taking toward labor, and how is labor regarding you? These are points which are coming up before every manufacturer and good advice from a man who is an expert on political science would frequently be of great aid.

It has been suggested that associations keep in touch with such an expert to whom the various manufacturers might refer some of their problems, and obtain valuable aid. These experts have studied labor conditions and know how various firms in different lines of manufacturing have failed and succeeded

with their problems and are well informed on these situations. This subject is their life work and it is only natural that they should be better informed than the ordinary business man who has thousands of other matters to which he must attend.

We believe it could be very easily arranged to have some professor of recognized standing in political science, to whom all questions on labor and economical conditions could be referred without a great deal of expense. We certainly believe the thought deserves consideration.

* * *

Price Insurance

A PLAN that strikes us as practical in view of the present price situation, altho it may not be entirely novel, is that advanced by a manufacturer of equipment for clay products and other plants, who states in connection with every sale:

"This equipment is sold with the understanding that we will refund to the purchaser the difference between the price paid and any lower price hereafter quoted by us on the same kind of equipment to anybody at any time prior to July 1, 1919." This is followed by a statement to the effect that prices are open to everybody and are the same to everybody. A price list is printed and may be had on request. Then follows this appeal:

"Keep the home wheels turning. Bid, build and buy now. Let's go."

This sounds soothing and restful after the great din of a week or so ago in Washington over the price stabilization program, which seems at this writing doomed to failure, due to a disagreement among some of the most important factors, and even between members of President Wilson's cabinet.

* * *

Construction Continues to Rise

UPON THE EVE of the launching of the Victory Liberty Loan, information has been made public by the Department of Labor to the effect that building in March of this year shows a gain of eighty per cent. over the actual average amount of construction for the month of March for the preceding eight years. This represents an increase of more than thirty per cent., estimating projects represented at the present cost of building.

This is exceedingly encouraging news for every clay products manufacturer in America. Conservatism has been and is now saying that we can hardly hope for much building before the fall of 1919, if then. For this reason the study of building permits as they are issued has taken on more than ordinary importance. Nearly every clay products manufacturer is intensely interested in watching the development of construction, and, therefore, the information that has been made public with regard to March

figures will put new hope into the breast of every clayworker. Moreover, the Department says the figures show, in the steady increase from week to week, there is a progressive movement to resume building.

It also appears that the amount of construction launched during March, 1919, is greater than any individual corresponding month for at least eight years back. Even with proper allowance made for increased costs, March, 1919, is at least thirty per cent. above the average for the last six years. March, 1917, is the only month which probably slightly exceeds in present value the past month. Government contracts are included in these figures, and undoubtedly in March, 1918, they represented a considerable percentage of the amount, since, for the entire year of 1918 they constituted thirty-two per cent.

The large cities have not as yet resumed building in the same fashion as the smaller places. When they do, it is believed that the industry will enjoy a prosperity greater than at any previous time.

* * *

The Price Stabilization Program

A LITTLE MORE than four weeks ago announcement was made of the appointment of a body in Washington known as the Industrial Board of the Department of Commerce, called by some the Peace Industries Board. George N. Peek, of Moline, Ill., was selected as the chairman.

Mr. Peek and his associates, as every clay products manufacturer knows, have been holding conferences with the producers of steel, lumber, brick, cement, and other building materials in an effort to arrive at what they considered a fair and right price for these respective materials under present conditions, announcing such a price with a view toward stabilizing the market and influencing building projects to resume.

Unfortunately and unexpectedly this program seems about to collapse, thru the disagreement of Walker D. Hines, rail director, and Mr. Peek, over the price arrived at by the board on steel rails.

So intense has become the feeling in Washington over the whole situation that it has been the cause of warm words among certain cabinet officers. The wires and wireless have been kept hot with messages to President Wilson, as umpire, to make a decision in the matter. Thus far, the President has refrained from taking sides in the controversy. Since the article on page 673 of this issue was written in Washington, President Wilson has sent a message to the parties to the disagreement urging them to make an effort to get together once more. Just what result this will have is dubious.

In the meantime the work of arriving at a fair and reasonable price for building brick thruout the United States has been halted.

FREIGHT RATE SITUATION GROWS MORE TENSE

Railroad Administration, in Refusing to Make Concession in Freight Rate on Clay Products, Blocks Business Restorative Efforts of Uncle Sam—Brick Ignored for Road Building in Limited Rate Reductions—Show-Down Comes in Hearing at Washington Latter Part of April—Delay in Published Freight Rates Causes Largest Loss to Manufacturers

By Waldon Fawcett

IT IS NO EXAGGERATION to say that the nerves of the clay products manufacturers who, in Washington, and thruout the country, have been sitting up nights with the freight rate dilemma, have just about reached the breaking point. It has been trying enough for these leaders of the industry to see weeks and months go by without making any real progress toward a working arrangement that would permit business to resume. The last straw has been added by the collapse of the price stabilization program of the Industrial Board of the Department of Commerce, owing to the attitude of the U. S. Railroad Administration. No wonder that the spokesmen at Washington for the clay interests are quick to "see red" if anybody says "government ownership" or "permanent government operation" of the railroads.

As tho the Railroad Administration had not "gummed things up" badly enough by refusing to accept the price recommendations of the Industrial Board, and thereby knocking in the head all hopes of Federally sponsored price stabilization, it has proceeded to deliver a blow below the belt by refusal to make any concession in freight rates for brick and other clay products needed for the construction work to bring about the revival of which the U. S. Department of Labor and other agencies of the Government are bending every energy. Thus the Railroad Administration is blocking the business restorative efforts of Uncle Sam, as well as pursuing a course that will be regarded by the everyday clay products man as nothing less than a breach of faith.

ACTION REGARDED AS BREACH OF FAITH

It is difficult to ascertain just what foundation or justification there was, in the first place, for the impression conveyed to the industry that a substantial reduction in freight rates was to be made on brick, and, indeed, on all classes of building material, in order to encourage public improvements and the "Build Now" movement. Certain it is that this hope and expectation was held out from Washington to members of the industry in general. The brick men who in recent weeks have journeyed to the capital to work out a scheme of price equalization did so in the full confidence that when they arrived at price concessions or compromise, the Government would meet them half way in their efforts at revival by making some concessions from the high freight rates which have done as much as high labor prices or anything else to hold up contracts. Even the clay products men, who never took much stock in the price stabilization scheme and

thought that the law of supply and demand should be allowed to accomplish price readjustment, agreed with their fellow tradesmen that a slicing of freight rates was the logical, the right and proper thing, if the industry was to be allowed to get on its feet.

Now what does the industry find, to its consternation? It finds that after having committed itself to a risk of narrowed profits, to an actual risk, in some instances, of temporary losses, for the sake of a resumption of activity, its dream of reduced freight rates is but a mirage. For the common brick men who have been induced to make concessions in price ranging from 5 to 25 per cent. (according to locality, etc., etc.) and averaging for the country at large not less than 15 per cent., it is a nasty disillusionment, but it may as well be faced. There has not been and is not likely to be any reduction in freight rates that will be of appreciable benefit to the industry.

Whether it is a bald case of bad faith, as indignant men in the industry are ready to charge, or merely a case of unfortunate misunderstanding, does not matter very much, in so far as the outcome is concerned. The net of the thing is that the only freight rate reduction which will materialize will not apply to brick and other clay products. In the first place, the only concessions that have been granted are on construction material for states, municipalities, etc., and to make sure that no dealer, contractor or other mere business men shall derive any benefit it is stipulated that the reduced rates are to apply only on material consigned to and the freight on which is paid by states, municipalities, etc. To cap the climax, the Railroad Administration seems disposed to blissfully ignore the use of brick for road building and paving, and in allowing freight rate concessions on highway construction materials restricts the list to gravel, sand and stone.

Separate and apart from the punctured plan that would have brought about a horizontal cut in freight rates on all construction materials, in order to get things started in the building and public improvement field, is the long-drawn effort to secure from the Railroad Administration an adjustment of brick rates that will reconcile the carrying charges on this commodity to the tariffs on other classes of construction materials. For all that committees of brick men and their legal advisers have been working day and night at Washington, in only one important respect can it be said that progress has been made over the status in the middle of

February, when M. F. Gallagher reported in detail on this heart-breaking business to the American Face Brick Association.

WILL APPEAL TO CONGRESS IF NECESSARY

He would be indeed an optimist who would tell the brick men that they are likely to soon receive the long-coveted relief from the freight rate discrimination against the brick industry, but at least it may be said that there will be a show-down as a result of the hearing in Washington the third week in April. Edward L. Chambers, director, Division of Traffic, and his associates in the Railroad Administration may continue to avoid making a decision or giving any satisfaction, as they have in the past, but at least they have before them what may be accounted an ultimatum from the brick interests—the culmination of nine months of work—and if this final appeal meets the fate of its predecessors we may expect an appeal on the part of the brick industry to the Interstate Commerce Commission and mayhap, direct to Congress.

The final appeal direct to the Railroad Administration for the long-evaded relief, which has just been presented at Washington by Attorney Francis B. James and the other spokesmen for the brick interests, has the merit that it does not dally, as did some of the proposals of the past nine months, with schemes for alternatives or partial relief, but goes to the heart of the matter with a demand that the rates on brick prescribed in General Order No. 28 shall be abolished, and in their stead shall be restored the rates in effect prior to the war. It is set forth in the strongest manner that the brick rates in effect before the war were out of line with the rates on other building materials, and that to put back the brick rates as they were before October 28 took effect, in reality constitutes acceptance by the brick trade of a certain percentage of advance—advance, that is, over what the rates should have been, judged by the standards of competitive commodities. If the Railroad Administration continues to procrastinate we may expect an appeal to the Interstate Commerce Commission. There is, I know, an impression in brick circles that one of the sins of the Railroad Commission is found in defiance and disregard of the Interstate Commerce Commission. As a matter of fact, whereas the powers of the Commission may be restricted in some directions as the result of the legislation that created the Railroad Administration, the Commission has the right to review, as to their equitability, etc., the rates prescribed in General Order No. 28.

It helps materially the interests of the brick industry in this national freight rate issue that the Indiana-Illinois muddle is in a fair way to be cleared up at the hearing before the eastern and western freight committees in Chicago, on May 6. The agreement that the rates in this quarter should be equalized or adjusted by a reduction of the Indiana rate instead of an increase in the Illinois rate has this bearing on the national situation, that it avoids a precedent that would operate to take the brick rates out of line with the rates on other classes of building materials, etc.

LACK OF DATA HOLDING UP BUSINESS

The many-sided grievance of the brick industry with respect to freight rates, big as is this grudge, is only part of the quarrel which the industry has with the powers that be in the U. S. Railroad Administration. Every week finds additions to the complaints and protests from the trade over the dilatory tactics of the Railroad Administration with respect to publishing freight rates to destinations. The railroad officials seem unable to realize what it means to a brick

man to be unable to get rates with any promptness. Leaders in the trade in various sections of the country are declaring in no uncertain terms that it is not the price of material that is holding up business, but inability to get information as to costs, due to total lack of data on the transportation item.

The experience of a prominent Pennsylvania brick manufacturer is typical. One of his traveling men recently visited the various towns in his territory and found prospects willing to order. The customers asked for samples and prices on the various kinds of brick, but the whole undertaking struck a snag because few railroad rates are in effect, and it was impossible to give the prospects any idea as to cost of transportation. All the orders failed to materialize, and \$1,500 expended for the salary and expenses of the traveling man constituted a sheer loss.

As matters stand, the entire issuing of rates has been virtually stopped and manufacturers cannot quote on material because it takes months and in some instances a year and a half to get rates thru. I heard of one case where a brick rate asked on June 1, 1918, was not published until March 10, 1919—a delay of nine months and two days. In another case a rate was applied for June 19, 1918, and shipment was withheld until August 17, in the hope of getting a rate, but the rate was not effective until November 18, a tardiness of five months. Meanwhile the Railroad Administration replies to the most urgent appeals only with fine phrases to the effect that rate changes cannot be made without the most careful consideration in order that all interests be kept in their proper relationship. Most exasperating of all for brick men, is the virtual insistence of the Railroad Administration officials that no rates will be published to or from any given point, unless the amount of tonnage be given. To demand, under present conditions, advance information as to exactly how much business will develop, strikes experienced brick men as an unreasonable and unwarranted exaction.



Report on Michigan Clay Industries

A book on the production and value of mineral products in Michigan for 1917 and prior years has just been published by the Michigan Geological and Biological Survey, Lansing, Mich., and is known as Publication 27, Geological Series 22. Several sections of the book, which contains 225 pages, are devoted to clay products, including pottery.

In 1917 the value of brick and tile products was \$2,846,264, exclusive of pottery, or \$141,210 more than in 1916. This was an increase of 5.2 per cent. as compared with 20.3 per cent. in 1916. The quantity of common brick, however, was only 236,612,000, or 42,563,000 brick less than 1916. This represents a decrease of 15.2 per cent. in quantity. The average price of commons in 1917 was \$7.95 per thousand, as compared with \$6.65 per thousand in 1916. This was an advance in price of nearly 20 per cent. The value of drain tile increased from \$548,795 in 1916 to \$734,042, a gain of about 33.7 per cent. The gain was chiefly thru the increase in price rather than in quantity. Lack of coal curtailed the output, which was much less than the demand.

The pottery industry of Michigan has had almost uninterrupted growth since 1899, and since 1908 the growth has been rapid, particularly in the last three years. In 1899, the total value of the pottery output was \$29,741; in 1908, \$62,409; in 1910, \$112,697; in 1916, \$792,716, and in 1917, \$1,187,981. The increases were largely due to the greatly increased output of porcelain and decorated ware and porcelain sanitary and electrical supplies. The products are chiefly porcelain electrical supplies, decorated and white ware, and flower pots.

INDIVIDUALITY *in* BRICK CHIMNEY CONSTRUCTION

The Story of the Erection of Nineteen Brick Chimneys at a Cost of \$35,000 in a \$500,000 Brick Residence in the East, Which Took About Three Months' Time to Complete

THE CONSTRUCTION of artistic brick chimneys has reached a high plane of development and accomplishment. In all parts of the country, in large and small communities, examples of real handicraft may be seen, showing the distinctive advantage to be derived in giving thought and proper consideration to the treatment of this feature of a building. Whether it be a fine residence, church, school, or other institution or structure, the building invariably needs a "finishing touch" to make replete, and often this spirit or feeling can be expressed in the chimneys.

How frequently are otherwise handsome and ornate structures marred thru lack of proper architectural theme in the chimneys—simply the use of semi-common brick, laid so many courses for the necessary height, with ordinary coping; in other words, just a chimney because a chimney is necessary for a certain utility, not a chimney both for service and artistic attainment. In contrast, there are many buildings which attract attention, and please and delight the eye in general design, contour and embellishments; nothing has been forgotten and the same careful consideration accorded to the various features of construction and ornamentation has been given to lend character and distinctiveness to the chimneys. That the result justifies the expenditure of time and funds there can be no question.

In accord with the demand for artistic chimney construction has come the development of certain types of brick particularly suitable for this purpose, until today the taste of the owner of a building can readily be satisfied and the desires fulfilled thru the countless selections of ornamental face brick, rough-texture finish and wide variety of colors. The progress in this work made by the high-grade brick manufacturing plants in different parts of the country during recent years has been remarkable, and this progress, so much impeded by the war now over, will doubtless take further steps for rapid advancement in the immediate time to come.

THE ONE IN A MILLION

With the use of regular materials and methods of construction, and right principles of application, there are possibilities for exceptional attainments in chimney work—all that modest investment might wish. But once in awhile, the chimney like no other, or one in a million and more, is brought to light. Here individuality has played a prominent part and created a result that stands as a remarkable and enlightening example of the wide range of capabilities of burned clay production, testifying, at the same time, to the ingenuity and craftsmanship of those engaged in this field of operation.

It is decidedly under this latter head that some of the recent work of the Hay Walker Brick Co., Inc., New

York, properly belongs. This company is one of the few that has specialized in distinctive and unusual chimney construction, and some of its conceptions and accomplishments in this phase of work present interesting and instructive specimens of best and most exclusive productions. Particularly is this true of one piece of work executed during the months past, comprising the erection of nineteen chimneys on an exceptionally fine residence at Greenwich, Conn.

THE TOPPING RESIDENCE

This home, shown in the accompanying illustration, was built for Mrs. H. J. Topping, and represents a total cost of about \$500,000. It was designed by Architect W. B. Tubby, New York, and was erected by C. T. Wills, Inc., building contractors of the same city. In developing the plans for the residence along the lines of fine old English architecture, the architect conceived the idea of having the chimneys carry out the old English theme to the last degree, using those as found on castles in England as the basis for the design. The Hay Walker company was called in to coöperate in this work, and in the resulting attainments the company may well take pride, for probably in no other part of the country can a duplicate of these chimneys be found. It is individuality to a high point of merit.

In taking up this operation, references were sought for similar construction, but of these there were practically none. The few books available portrayed chimneys of



Front View of the \$500,000 Brick Mansion Built at Greenwich, Conn., for Mrs. H. J. Topping.

this character as found in England in illustration; descriptive matter, however, and information as to the exact details of construction, other than the fact that the brick were molded on the job, could not be found. The soft

clays of England which harden with age, like American limestone, might well be applicable to work of this nature,



Two of the Nineteen Chimneys, All of Which Differ in the Design of Brick Used In Their Construction.

but such a plan could not be employed in this case. Accordingly, it was decided to mold the brick for these chimneys separately, and this production was carried out at the plant of the Parry Brick Co., Gonic, N. H., an interest closely allied with the Hay Walker company.

HAND MOLDED BRICK

Each of the nineteen chimneys are different—there are no two exactly alike, the only sameness being in general size. The individual characteristics of the various designs are well illustrated in the chimneys shown in the accompanying illustrations, which set forth the work complete as it stands today. A study of these illustrations will afford a comprehensive idea of the intricate character of the production, and the high degree of fineness in execution. Moreover, the beauty of the chimneys is easy to appreciate, as well as the individuality so well expressed in the different detail. The chimneys are located on the building for service in the library, living room, dining room, billiard room, owner's bed room, children's room, laundry, kitchen and boiler room.

Full-sized detail drawings were prepared for each chimney, and reproducing each brick in such chimney. The brick as detailed were given numbers or distinguishing marks for use at the brick plant, as well as for erection purposes. As only ordinary labor was used at the yard, a careful system of production was developed, with E. M. Thomas, treasurer of the company, in charge of the work. Each brick was hand molded, corresponding in exact size to the detail drawings, and all odd shapes, special mitres, radials, joints, etc., were reproduced first in terra cotta for the mold, in order that no error would

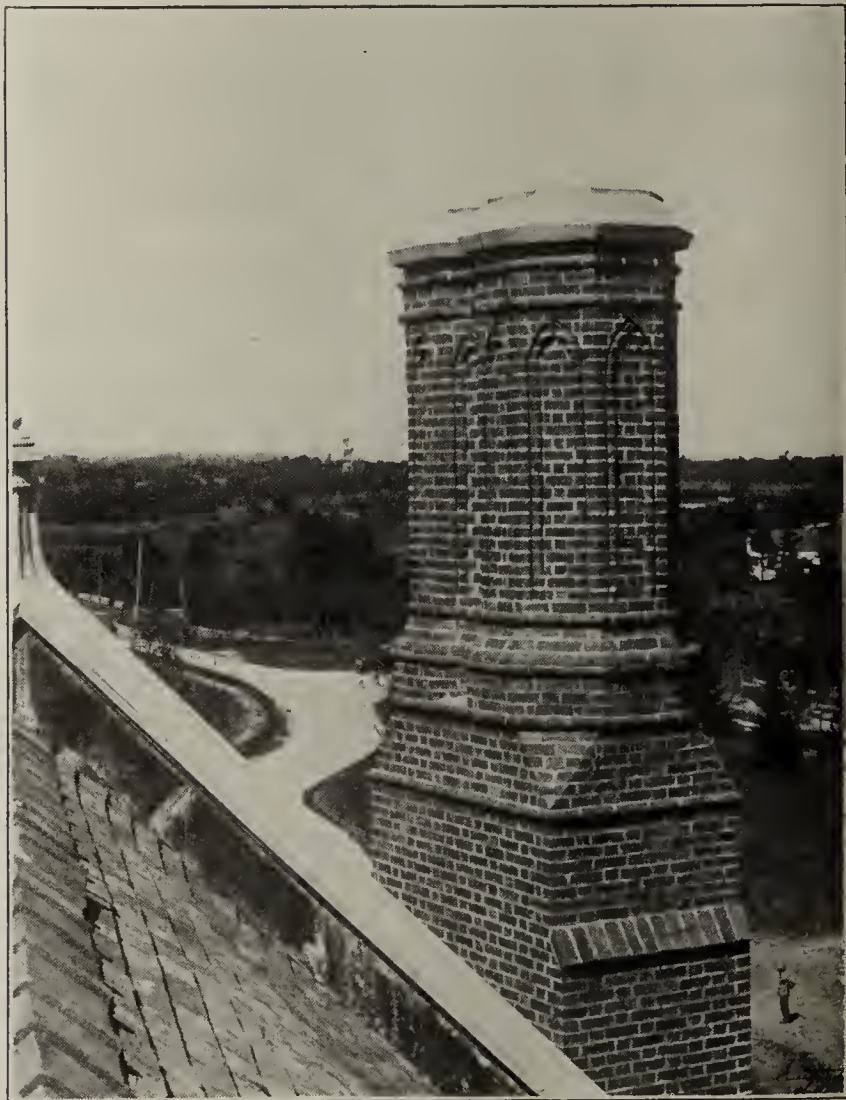
ensue. The equipment used was of primitive type and particularly so arranged to bring about the desired features in production. Wood was used as fuel in common brick kilns.

The material used was the well-known Harvard brick, these being red in color, running into a blue edge brick with red center. With every brick practically "carved by hand" in production, the chimneys are commonly referred to as "hand carved," and most assuredly, the result as conveyed in the typical illustrations shown lives up to this term. The brick is of antique texture, bringing out in fine relief the old period style desired.

EACH BRICK IN ITS PLACE

The drawings used for production were similarly employed for erection work; here, each brick as numbered was laid in its right position—there was no changing about, or altering here and there; each was designed for a certain place and found its way to that position. The matter of erection on the job might well be likened to the manner in which structural steel frame work is constructed, each member of the frame being designed and designated for a particular place in the structure.

The chimneys average about 30 inches in diameter, with flues of 5 inches and 9-inch radius. The bases, of octagonal shape, measure about 5 feet. The brick are laid 29 courses high above the top of the base cap, with 7 courses high to each base. The chimney caps, of ornamental octagonal design, are formed of limestone, and this coping tends to add to the attractiveness of the different chimneys. The various ribs, or half rounds are about 2 inches wide and $1\frac{1}{4}$ inches thick, with varying lengths as required by the design.



Very Few References Were Available to Receive Suggestions From, for Designing These Artistic Brick Chimneys.

To complete the work necessitated a period of about three months, with the entire complement of nineteen

chimneys costing about \$35,000. To harmonize with the house, which is built entirely of regular Harvard brick, a Ludowici tile roof has been laid, such being of moss green color with yellow blend. This tile, designed to represent shingles, is of interlocking type.

A WIDE VARIETY OF BRICK

In passing, it is interesting to note that the Hay Walker company has a wide variety of brick at command to handle such fine work as may arise, in addition to its special chimney construction operations. The company represents in eastern territory such well-known, high-grade brick manufacturers as the Upper Kittanning Brick



An idea of the High Degree of Fineness in Execution and the Intricate Character of Production of These Chimneys Will Be Gained by a Study of the Accompanying Illustrations.

Co., the Clearfield Brick Manufacturing Co., Gloninger & Co., Bonner & Marshall Brick Co., Corry Brick & Tile Co., Altoona Brick Co., Bradford Pressed Brick Co., Wadsworth Brick & Tile Co., Claycraft Brick & Mining Co., Pittsburgh Cattery Co., Bloomsburg Brick Co., National Fire Proofing Co., Mays Landing Brick Co., East Liverpool Brick Co., Alliance Brick Co., Keim Brick & Tile Co., and the Brick, Terra Cotta & Tile Co., the latter of Corning, N. Y. As will be noted, the majority of these representations are in Pennsylvania.

At its New York show rooms the company maintains a large and attractive assortment of face brick from these various plants, effectively arranged in panels sunk into the walls, showing the brick as it actually appears on the job. A large volume of business is handled in this line, a fully equipped estimating department having been provided to take-off quantities from architects' and engineers' plans for immediate quotations. The company is thus in position to assist contractors and others in figuring on jobs, and to coöperate in every feature from ordering the particular character of brick desired to delivery on the building site.

The officers of the company are: Edward E. McCoy, president; Andrew A. Ayers and Robert L. Findlay, vice-presidents; William C. Black, vice-president and secretary, and Mr. Thomas, treasurer, as previously mentioned.



National Chamber to Hold Annual at St. Louis on the Eve of Special Session of Congress

A preliminary outline of the program for the seventh annual meeting of the Chamber of Commerce of the United States, to be held at St. Louis, April 28 to May 1, as given out April 11 at the Chamber's headquarters, discloses that American business is preparing to offer constructive suggestions with respect to future relations between government and business.

Having the advantage of experience gained during the war and during a five months' period of industrial readjustment, business men now are in position to give advice from their point of view on some of the important questions that are agitating the country. The meeting, coming as it does on the eve of an extraordinary session of Congress, furnishes an opportunity for obtaining a composite opinion from the business world on many things that Congress will take up.

A very large part of the things that Congress will be called on to consider touch industry and business at some point. At St. Louis the representatives of business from forty-eight states attending the meeting will express their views not only as to policies and principles, but will advance detailed programs as to carrying them out.

A call has been sent out asking a meeting at the time of the convention of the Advisory Council of American Industries, made up of chairmen of the nearly 400 War Service Committees named under the Chamber's direction during the war to represent industry before the government. These men will come together for the first time since the first of the year, when they met at New York to form an organization to perpetuate the War Service Committees.

The subjects for discussion and action at St. Louis include the disposition and operation of the country's railroads and merchant marine; proposed revision of anti-trust legislation; the future of public utilities; foreign relations and foreign trade; agriculture; industrial production; domestic distribution; waterways and highways; industrial relations; international commercial arbitration; finance and Victory Loan.

The Chamber is obtaining the services of the best authorities of the country as speakers, and those who will deliver addresses include Carter Glass, Secretary of the Treasury; William C. Redfield, Secretary of Commerce; Edward N. Hurley, Chairman of the Shipping Board; Walker D. Hines, Director of Railroad Transportation; Senator Albert S. Cummins; George Ed. Smith, president of the Manufacturers' Export Association, and others.

The French government is sending to the meeting as a speaker a special representative in the person of Maurice Casenave, formerly French Minister to Brazil, who comes to the United States as Director General of the French Services in this country, succeeding the French High Commission.



How Texas School Boys Saved

Thirty thousand boys in the agricultural clubs of Texas are training themselves in thrift, business management and the serious work of life. A recent investigation among these boys showed results that are reported in the Country Agent. It was found that 67.4 per cent. owned Thrift Stamps and War Savings Certificates averaging \$19.30 per boy, a total

of \$382,954 was owned by 19,831 boys. In Liberty Bonds 15.4 per cent. reported ownership averaging \$59.32, or a total of \$264,306 for 4,532 boys.

Twenty-six per cent. have a bank account, averaging \$64.83 each, or a total of \$496,014.33 for 7,510 boys, while the total value of the live stock or other property that has been accumulated since becoming a club member amounted to

\$1,317,993.18, or \$65.66 each for 20,073 boys, which is 68.2 per cent. of the entire membership.

On top of that the boys showed 66.6 per cent. membership in the Red Cross, \$2.88 each, or a total of \$56,511 for 19,622 boys.

Moral: If you want a good business man, begin with a business boy.



EASTERN LIME *and* CEMENT MANUFACTURERS *make* MAXIMUM PRICE GUARANTIES

BY A SINGLE STROKE responsibility for backwardness of the 1919 building season has been shifted from the building material manufacturers to the investors themselves, according to the Dow Service Daily Building Reports.

Both the lime and cement industries have taken careful surveys of the building situation in New York and in cities east of the Mississippi, and the reports show that building construction has been retarded by the general expectation that building material prices were not only out of reach now, but would be much higher after the building season opened. For fear of accentuating this building movement many private projectors decided not to build at all, and the result was that only about forty per cent. of normal construction work went ahead and nearly seven-tenths of that which did proceed was alteration work. A large proportion of the projected work was in the form of necessary commercial or industrial expansion, while one of the chief needs of the day is for a freer market for the construction of small homes. Other owners were informed by estimating contractors that the building market would go up this summer and prices would be higher than anything heretofore attained. Frightened by possible delays thru strikes and inadequate delivery facilities on railroads and steamships, the builders either withdrew from the market or went into the alteration market.

CEMENT MANUFACTURERS GUARANTEE MARKET

Recognizing the tendency of the time in this regard the cement manufacturers agreed to guarantee the market against any higher prices than the \$3.25 delivery level for New York for the remainder of the year. In other words, the market may rest assured that Portland cement prices will remain at present levels until December 31, 1919, with the further proviso that if there should be a price reduction in favor of the prospective builder or contractor the various companies, representing ten different establishments in all, would follow the reduction. In other words, if, during the year, any one company should attempt to cut the price all the other parties to the manufacturers' agreement will follow suit, the plan being strictly in accordance with the efforts of the various Government boards to get building construction work started even tho unprecedented means have to be employed to accomplish the much needed building revival.

Acting independently and also in line with the general disposition of building material manufacturers supplying the New York market to effect a condition of practical guaranty against further price advances this year the barrel lime manufacturers representing practically 100 per cent. of the trade met in New York April 10, and decided to fix the present price level as the guaranteed maximum until September 1, 1919. The data was fixed so as to permit the manufacturers to reach a still lower price level if the quantity demanded by the building market at that time was

sufficiently great to permit them to revive their present manufacturing costs on what is termed a quantity basis in which event the price would probably be lowered.

Strong influences were exerted upon the common brick manufacturers supplying this market to fix the present level of \$15 as their maximum for the remainder of the year, but the menace of a boatmen's strike greatly increasing the cost of handling brick between the manufacturing plants and the city's wholesale docks, made it impossible to take the forward step that the other lines had taken.

In the building sand market a vigorous war is in progress between two rival companies for supremacy.

There is no price quotation quotable in this market, nor in gravel or grit and in consequence the crushed stone market is ragged.

The controversy between the Industrial Board at Washington and the Railroad Administration left the building market in an unsettled state until the cement and lime interests counteracted it by the magnanimous stand with reference to stabilizing the price market in New York.

BUILDING REVIVAL CONVENTION IN CLEVELAND

The attitude of the building material manufacturers in the East, supplemented by the aggressive lead taken for some time by the building material dealers to meet their part of the responsibility for the backwardness of the building market by removing a generous part of the overload of delivered prices, is expected to have reflection in the "Building Revival" convention of the National Federation of Building Construction Industries that is to be held in Cleveland, on May 7 and 8. At that time the financial leaders of the world, with a generous representation from New York, with representatives from many manufacturing industries from the sections supplying this city with building materials, will go there with the intention of showing what New York has done in the matter of "passing the buck" back to the building investor who has been demanding price stabilization as the conditions upon which he will build and endeavor to induce other building material manufacturers, in all parts of the country to meet the situation in the same way, not by cutting prices below profit levels, but by guaranteeing that present levels may be depended upon not to go higher this year.

In other parts of the country, recent price drops have been met by the prospective builder with the statement that "now we've got them on the run, we'll wait some more for further drops," but the farseeing builder is not concerning himself so much with how low the prices drop as to how long they will stay low. The building material manufacturers of the east have answered it in unmistakable language and there is nothing now standing in the way of a free building market after the Victory Loan drive.

ILLINOIS CLAY MEN LISTEN *to* VALUABLE PAPERS

*Harvey C. Adams Elected President, E. F. Plumb Vice-President,
and C. W. Parmelee Secretary-Treasurer at Forty-First Annual Meeting
of Clay Manufacturers' Association, Held in Chicago, April 9 and 10*

REVIVING AN INTEREST in the Illinois Clay Manufacturers' Association, such as has not been shown in recent years, this organization thru the tireless efforts of two of its energetic and progressive officials, Douglas F. Stevens, president, and C. W. Parmelee, secretary, met at the Hotel La Salle, Chicago, on April 9 and 10, to hold its forty-first annual convention.

Despite the fact that the meeting came at a time when clay plants are just resuming operations, and when it is rather difficult for the owners to get away, nearly fifty representatives gathered at one of the most profitable sessions ever held by any state association. The success of the meeting was a splendid tribute to the progressive views of Mr. Stevens, who saw the advantage of holding the meeting in conjunction with the local units of the various national associations of allied clay products manufacturers.

Those associations which met at this cooperative meeting were the Illinois and Indiana divisions of the American Face Brick Association, Indiana Brick Manufacturers' Association, Illinois Paving Brick Manufacturers' Association, Illinois Drain Tile Association, Western Hollow Building Tile Association, and the Chicago section of the American Ceramic Society. Each of these organizations held its separate meetings at a specified time, and all met together for several sessions of the state association.

A great change in the nature of the proceedings of a state association has taken place during recent years. Formerly the subjects of advertising, cost accounting, freight rates and other similar matters were discussed, but these topics are now taken up entirely by the national association. While these subjects are still discussed in a minor way, the chief work of the state association now is to take care of those phases which can only best be handled by such an organization, such as local advertising, industrial problems, and a program of papers. This latter item proved to be the feature of the meeting, and great credit is due C. W. Parmelee, who spent considerable time and effort in arranging the exceedingly fine program of papers which held everyone's attention thruout the entire meeting. There was not a single paper read but that there was not a great deal of discussion following it, which is evidence of the keen interest displayed.

SUGGESTS ANNUAL MEETING OF ALL ALLIED UNITS

The meeting opened at approximately 2:00 p. m. Wednesday, April 9, with a session in the East Room of the Hotel La Salle. Douglas F. Stevens, president of the association, who is largely responsible for the revival of interest in the organization, opened the convention with a short address in which he advised that the state association cooperate with the state units of the various national allied associations for the mutual benefit of all. He also said that matters

relating to freight rates and industrial laws are of interest to a manufacturer of any type of clay product, and should be discussed at a meeting such as this. He urged a permanent agreement between the various units present to meet together once a year, and, furthermore, suggested that each organization present appoint two men to arrange for a general meeting each year. Mr. Stevens also called attention to the free scholarships in the course of ceramic engineering at the University of Illinois, which were available to one hundred and two high school graduates thruout the state. Every clayworker was urged to spread the knowledge of the existence of these scholarships and the possibilities for the graduates in this course for obtaining good positions.

Following this address, Secretary Parmelee gave a report of the meeting held last year at Champaign, and reported on the condition of the treasury. He also called attention to the fact that an advisory committee for the Department of Ceramic Engineering at the University of Illinois, should be suggested by the association for appointment by the Board of Trustees of the University.

ADVISORY BOARD OF CERAMICS SUGGESTED

Four names were later presented and their appointment approved by members of the association. They are: W. D. Gates, president of the American Terra Cotta and Ceramic Society, Chicago; J. W. Stipes, J. W. Stipes Building Material Co., Champaign; F. W. Butterworth, general manager, Western Brick Co., Danville, and A. W. Gates, president, Gates Fire Clay Co., Colchester.

The next in order on the program was the reading of the papers, which included: "The Silica Deposits of Southern Illinois," by Prof. C. W. Parmelee; "Heat Losses and Fuel Economy in Periodic Kilns," by Prof. R. K. Hursh; "After-War Problems of Labor and Capital," by Prof. M. H. Robinson, and "What Paving Brick Should Be and Do," by Prof. C. C. Wiley. *Brick and Clay Record* hopes to publish all of these papers in future issues.

At seven in the evening, the Chicago Section of the American Ceramic Society held a dinner followed by a meeting. All members attending the meeting of the Illinois Clay Manufacturers' Association were invited to attend, and quite a number availed themselves of this opportunity. Three interesting papers on ceramic topics were read, the first one being on "The Humidity System of Drying for Clay Wares," by B. S. Radcliffe. This was a brief talk on the experiences and proposal to dry clay ware by some form of humidity system at the plant of the Midland Terra Cotta Co., Chicago, Ill. Some interesting facts about drying clay were disclosed in this talk and the discussion that followed.

A paper on "The Heat Insulation of Industrial Furnaces," by H. N. Haberstroh, was then read and discussed. Quite

a bit of interest was displayed on this subject and one manufacturer stated that he was about to try the application of "Sil-O-Cel" on some of his kilns.

E. E. Libman followed with a talk on "Notes on Zirconia," which gave some interesting facts about this mineral which heretofore has been little known and which is destined to be one of great importance in the ceramic field in the future. It has great possibilities, especially in the refractories field, having an exceedingly high melting point.

CHICAGO SECTION HOLDS SHORT MEETING

A short business meeting then ensued, at which four members were approved by the Chicago section of the American Ceramic Society for appointment to the advisory board in the Department of Ceramic Engineering at the University of Illinois. These men are: E. F. Ackhardt, general manager, Federal Plate Glass Co., Ottawa; Chas. S. Reid, president, Chicago Retort & Fire Brick Co., Chicago; J. H. Fall, Jr., Benjamin Electrical Manufacturing Co., Chicago, and Theo. G. Dickinson, president, Marquette Cement Manufacturing Co., Chicago.

Dr. G. C. Mars then closed the session with some interesting stories, and ended with a short talk on national policies in politics, referring especially to the League of Nations.

Thursday morning, April 10, was spent in holding separate meetings of the various associations meeting in conjunction with the state association and at twelve thirty everyone gathered in the East Room to join in the luncheon, at which addresses were made; one by F. W. DeWolf, of the State Geological Survey, who talked on association work, and told of the work being done by a coal operators' association. C. W. Parmelee spoke in the absence of Dean Goss, of the College of Engineering, University of Illinois, who was to have addressed the assembly on the course of ceramic engineering at the University of Illinois.

Harvey C. Adams closed the session by an address on "Pavements." He first referred to an editorial which appeared in the Sunday edition of a recent issue of the Chicago "Tribune" where it, one of the biggest newspapers in the country, shows its ignorance to the fact that a road can be built without the use of cement. He showed where the best kind of a road can be built without using any cement at all, and illustrated this by referring to some of the older roads both in this country and Europe. Mr. Adams spoke on the various experiments that had been made on the strength of different types of construction of pavements at the University of Illinois. It is a pity, he said, that the State Highway Department has failed to accept the results of the various tests made at the University, and in designing pavements has discarded a number of facts which have pointed to the advisability of changing the design of the present recommended type of brick pavement. Mr. Adams pointed out that the wrong viewpoint has been taken with regard to the use of brick, and said that altho inch for inch thickness of pavement, the brick pavement is every bit as strong if not stronger than the concrete pavement, the Highway Department insists in making the brick pavement thicker and in this manner "designs brick off of the job."

OFFICERS ELECTED FOR COMING YEAR

Before the meeting adjourned to permit the members to inspect the Underwriters' Laboratories at 207 East Ohio street, a short business meeting was held at which the resolutions committee made its report, and at which the nominating committee recommended the following officers for various offices and committees, all of whom were elected to office by acclamation:

The president is Harvey C. Adams, of the Danville Paving Brick Co., Danville; vice-president, E. F. Plumb, Streator Brick Co., Streator, and secretary-treasurer, C. W. Parmelee, University of Illinois. The legislative committee is composed of William Hammerschmidt, F. W. Butterworth and J. Stipes. The cost accounting committee is composed of D. C. Haeger, D. F. Stevens, and E. F. Mattes.

VISIT TO UNDERWRITERS' LABORATORIES

It was very unfortunate that so few members availed themselves of the opportunity to visit the splendid building of the Underwriters' Laboratories. This building is absolutely fireproof, having even its office desks made of galvanized iron. The building has a reception room which is an exceptionally good illustration of the possibilities of clay products. Various types of tile, brick and terra cotta construction make this room unusually beautiful as well as fireproof. Those who were fortunate enough to visit this institution were treated to a test which was made on the fireproof qualities of a plate glass window. Every one present enjoyed the sight of the fiery flames licking the large glass window and later watching the effect of a stream of water playing on this red hot glass at a pressure of sixty pounds without breaking it, altho it was cracked up considerably.

ROSTER OF THOSE ATTENDING MEETING

The following is a roster of those who attended the various meetings, including the names of manufacturers of clay products, machinery men, ceramists, and others interested:

D. C. Haeger, Haeger Brick & Tile Co., Aurora, Ill.
O. L. Jones, Illinois Clay Products Co., Oglesby, Ill.
W. R. McKown, Brooklyn Brick Co., Indianapolis and Chicago.
C. G. Powell, Montezuma (Ind.) Brick Works.
W. P. Varney, Hydraulic-Press Brick Co., Chicago, Ill.
F. R. Carter, Peoria (Ill.) Brick and Tile Co.
R. L. Mernagh, Alton Brick Co., St. Louis, Mo.
A. W. Gates, Monmouth, Ill.
Walter M. Pratt, Gates Fire Clay Co., Earlville, Ill.
F. W. Lucke, F. W. Lucke & Co., Chicago, Ill.
A. R. Root, Chambers Bros. Co., Philadelphia, Pa.
T. A. Randall, Clay Worker, Indianapolis, Ind.
R. K. Hursh, University of Illinois, Urbana, Ill.
E. F. Plumb, Streator (Ill.) Brick Co.
G. Supple, Western Brick Co., Danville, Ill.
F. W. Butterworth, Western Brick Co., Danville, Ill.
A. E. Davis, Western Brick Co., Danville, Ill.
J. F. Morris, Streator (Ill.) Drain Tile Co.
James A. Reeves, Streator (Ill.) Drain Tile Co.
J. B. Ashline, St. Anne (Ill.) Brick and Tile Co.
E. L. Anders, Chicago, Ill.
F. W. DeWolf, Illinois State Geological Survey, Urbana, Ill.
C. N. Stevens, Acme Brick Co., Evanston, Ill.
H. C. Adams, Danville (Ill.) Brick Co.
Ed. Brockman, The Roessler & Hasslacher Chemical Co., Chicago.
N. H. McLaughlin, Sec'y, Alsey (Ill.) Brick and Tile Co.
E. M. George, Main Belting Co., Chicago, Ill.
L. Haigh, American Clay Machinery Co., Bucyrus, Ohio.
E. G. Zorn, *Brick and Clay Record*, Chicago.
R. R. Danielson, Benjamin Electric Mfg. Co., Des Plaines, Ill.
George G. Lawson, Northwestern Terra Cotta Co., Chicago.
F. B. Ortman, Northwestern Terra Cotta Co., Chicago.
C. J. Wilson, Hydraulic-Press Brick Co., Chicago.
G. C. Landgrebe, Huntingburg (Ind.) Pressed Brick Co.
E. C. Hervey, Hydraulic-Press Brick Co., Indianapolis.
G. B. Lockett, Crawfordsville (Ind.) Shale Brick Co.
W. D. Gates, American Terra Cotta & Ceramic Co., Chicago.
H. J. Suhrheinrich, Standard Brick Mfg. Co., Evansville, Ind.
H. C. Kleymeyer, Standard Brick Mfg. Co., Evansville, Ind.
J. M. Mamer, Campus (Ill.) Brick and Tile Co.
Geo. J. Walter, Drain Tile & Brick Co., Chatsworth, Ill.
Wm. Hammerschmidt, Lombard (Ill.) Brick & Tile Co.
C. W. Parmelee, University of Illinois, Urbana, Ill.
F. L. Steinhoff, *Brick and Clay Record*, Chicago.
D. F. Stevens, Acme Brick Co., Cayuga, Ind.
Albert Rapp, Rapp Clay Products Co., Peoria, Ill.
R. Combs, Thos. Moulding Brick Co., Chicago.
H. T. Bellamy, Western Electric Co., Chicago.

G. C. Mars, Hydraulic-Press Brick Co., St. Louis, Mo.
 H. N. Haberstroh, Celite Products Co., Chicago.
 B. S. Radcliffe, Midland Terra Cotta Co., Chicago.
 B. T. Sweely, Western Electric Co., Chicago.
 H. L. Blackford, Fairite Co., Chicago.
 E. Libman, University of Illinois, Urbana, Ill. ✓ 2 1

M. Gates, American Terra Cotta & Ceramic Co., Chicago.
 J. O. Trautwein, Trautwein Dryer and Engineering Co., Chicago
 A. Knight, Celite Products Co., Chicago.
 C. C. Wiley, University of Illinois, Highway Dept., Urbana, Ill.
 M. H. Robinson, University of Illinois, Urbana, Ill.
 J. H. King, Colchester Brick and Tile Co., Colchester, Ill.



REFRATORIES MANUFACTURERS' BANQUET, PENNSYLVANIA HOTEL, NEW YORK, BIG EVENT

IN CONNECTION with the meeting of the members of the Refractories Manufacturers' Association at the Pennsylvania Hotel, New York, March 20, referred to in the April 8 issue of *Brick and Clay Record*, an enjoyable dinner was held in one of the banquet rooms at the hotel at 7:00 p. m., and at which a large number of those in attendance at the meeting, were present. The arrangements for the banquet were made by a committee composed of: F. R. Valentine, of the M. D. Valentine & Bros. Co., Woodbridge, N. J.; Clifford M. Maurer, of Henry Maurer & Son, New York, and U. S. Clark, of The Howard Co., New Haven, Conn.

Great credit is due this committee not only for arranging a delightful repast, but for the introduction of a decided innovation as regards dinners of this nature. Instead of the usual after-dinner talks and addresses, it was decreed that the members, after a day's business session, would prefer a contrast and diversion, and this was provided in the form of an excellent cabaret entertainment. Accordingly, the "no speech" rule was in effect, and was only broken, and quite properly, by a half-minute talk by President-Elect John H. Cavender, who made a few appropriate remarks to those assembled, expressing his appreciation of the hospitality of the eastern members of the association and their ardent desire to have those who came from Pittsburgh and points west thoroly enjoy themselves and have a fine time while in the metropolis.

To provide for the entertainment as well as for an attractive souvenir for each of the members and guests present, a voluntary assessment was arranged among the members of the association, comprising what is known as the "Eastern Pennsylvania, New Jersey, New York and New England District." This resulted in a sum well sufficient to provide for the purposes intended, the disbursement being in charge of the committee noted above.



Norton Co. Develops Non-Slip Ceramic Tile

The Norton Co., Worcester, Mass., has secured patents covering a new non-slip ceramic tile, and is planning for the establishment of a department at its local plant for the manufacture of the specialty. The new tile is made from alundum, produced at the company's Niagara Falls (N. Y.) works, the basic materials being bauxite and clay; after being fused into alundum, the material is powdered and mixed with clay, this latter work being handled at the Greendale plant of the company; it is then burned in the kilns, the clay being fused into glass for a binder material. It is proposed to make the tile in three sizes, 6x9 in., 6x6 in., and 3x4 in., with thickness varying from one-fourth to 1¼ in. The new tile will be introduced for floors or public buildings, offices, department stores, elevator floors, etc., providing a safety tread that will not wear smooth.



Members of The Refractories Manufacturers' Association Who Attended Innovation Banquet.

RAW MATERIAL *and* ASH HANDLING EQUIPMENT

While This, Part II of the Ninth Article in the Series, Refers More Particularly to Power Plant Requirements, the Principles Are Also Applicable to General Clay Plant Conditions

By Robert June, M. E.

THE POWER PLANT OWNER who is considering the installation of mechanical coal and ash handling systems, is confronted by a number of fundamental problems which must all be solved correctly if he is to make a satisfactory decision. If the solutions require time and study, he will do well to refuse to be hurried in his investigations. Of all the white elephants which at times invade industrial plants, the improperly chosen conveying system is one of the largest, whitest and most voracious in appetite when it comes to eating up profits.

Prominent among the questions to be answered are the following:

(a) What type, or types, of equipment are best adapted for the conditions in the industrial plant under consideration?

(b) Shall the coal and ash handling systems be divorced?

(c) Granted that questions (a) and (b) are correctly answered, will the equipment chosen meet the require-

oil, etc., plus the maintenance costs, M, which include repairs of any nature, labor required to make repairs, depreciation, etc., plus interest, I, on total money invested, which must include not only equipment and parts purchased from manufacturer, but cost of labor to install, cost

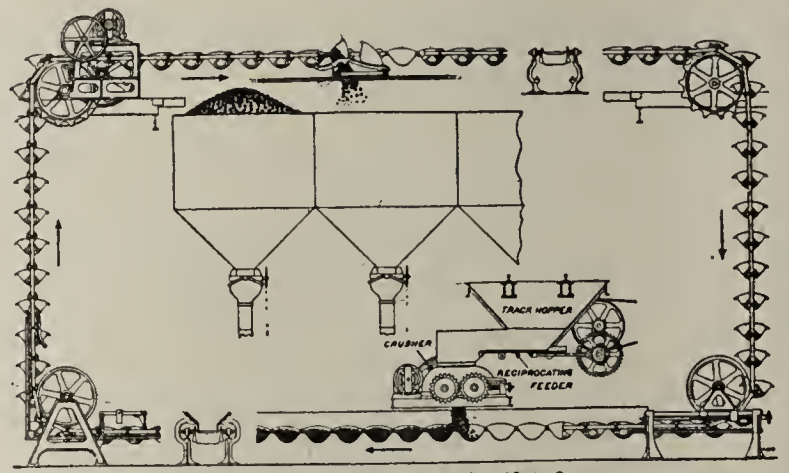


Diagram Showing Operation of the Peck Overlapping Pivoted Bucket Carrier

Fig. 2. Peck Carrier.



Fig. 1. Gifford Wood Single Chain Flight Conveyor.

of foundations, bunkers, and other charges, be less than the cost of doing the same work by hand, H.

In order to arrive at some understanding of the factors entering into the first of these three problems, we began last month a brief survey of the different types of coal and ash handling equipment. Continuing our description, we come to:

APRON CONVEYORS

The apron conveyor was developed with the idea of obtaining a self-supporting continuous belt for handling heavy material. It consists of a double strand of roller chains on which are mounted steel plates, the width of which corresponds to the pitch of the chain. These plates are beaded or curved over each other to form a closed joint. The sides are also made overlapping so as to produce a closed trough.

Apron conveyors are commonly used for conveying coal from track hoppers to the main conveyor and elevator. Only end discharge, of course, is possible, and thirty degrees inclination is the practical limit in elevation. Owing to its construction, this type of conveyor is comparatively expensive to install. However, since the load is carried and not dragged, less power is required than with the scraper type, and the maintenance is lower.

In estimating power requirements, the formula pre-

ments of the $O M I < H$ formula; that is, will the operating costs O, which include power, labor to operate,

viously given for flight conveyors may be used with a reduction of 10 per cent. in the final figures.

PAN CONVEYORS

In the pan conveyor, the flights are omitted and the trough itself is made in sections and mounted on the

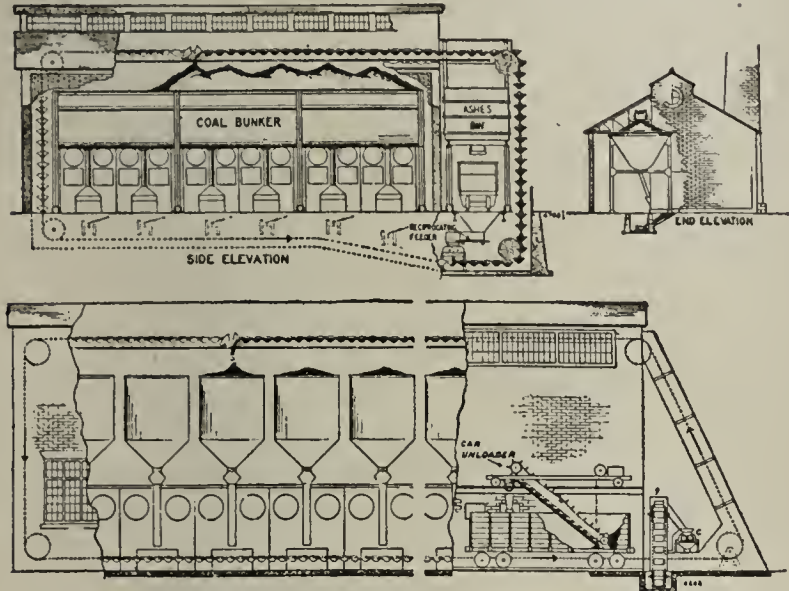


Fig. 3. Typical Overlapping Bucket Conveyor Installations.

chains. By this change the material is carried, with consequent reduction in wear.

This type of conveyor is used where pans, deeper than those of an apron conveyor, are required, as on inclines too flat for elevators and too steep for efficient operation of flight, or apron conveyors. The usual speed is 30 to 50 feet per minute. When supported by self-oiling roller wheels, the power consumption is but little above theoretical load requirements. For purposes of estimate, the power may also be assumed as 10 per cent. less than that of the formula previously given.

In passing, it should be noted that on account of the abrasive character of the materials, the employment of pan and apron conveyors for ashes is apt to result in excessively high maintenance costs.

V-BUCKET CONVEYORS

In this type the buckets are rigidly fastened to the conveyor chain, with the result that on the vertical runs, the material is lifted, whereas on horizontal runs, it is dragged thru the trough ahead of the bucket.

The V-bucket conveyor is one of the less expensive forms of chain conveyors, and should be given consideration in the smaller power plants. While not as popular today as in the past, there are a goodly number of fairly representative medium sized plants that employ them to good advantage.

Power requirements may be approximated from the

following equation, supplied by courtesy of Professor Gebhart.

AWL'S BLT TH 1
HP = ——— + ——— + ——— + ——— X'
1000 1000 1000 2

in which

- A and B = constants as in Table II.
- W = weight of conveyor per ft. or run, lbs.
- S = speed of conveyor, ft. per min.
- T = capacity of conveyor, tons per hr. (note, figure 50 lbs. coal per cu. ft. and 40 lbs. of ashes).
- L' = horizontal length of conveyor, ft.
- L = total horizontal length traversed by the loaded bucket, ft.
- H = total vertical traverse, ft.
- X' = number of 90-degree turns in the conveyor.

PIVOTED BUCKET CONVEYORS

This is the most popular form of chain conveyor for both medium and large sized power plants. The pivoted

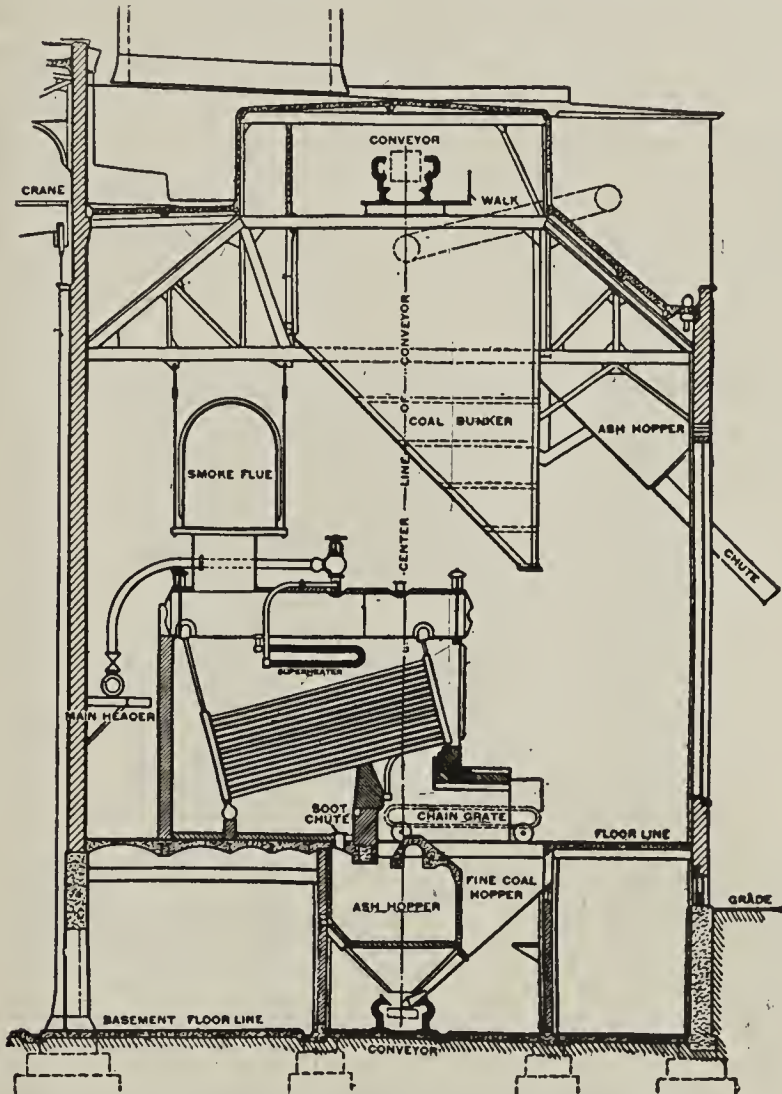


Fig. 4. Coal and Ash Handling System, South Side Elevated Railway Power House, Chicago.

bucket carrier is composed of a continuous series of malleable iron buckets pivoted between two strands of roller

Angle of Conveyor with Horizontal Deg.	A				B Scraper, Apron and Open Top			B V-Buckets and Pivoted Buckets		
	Sliding Blk.	3½" Roller ¾" Pin	6" Roller 1½" Pin	6" Roller 1½" Pin	Anthracite Coal	Bituminous Coal	Ashes	3½" Roller ¾" Pin	6" Roller 1½" Pin	6" Roller 1½" Pin
0	0.030	0.0043	0.0046	0.0050	0.33	0.60	0.54	0.07	0.70	0.083
6	0.030	0.0043	0.0046	0.0050	0.43	0.69	0.63	0.18	0.18	0.19
12	0.030	0.0043	0.0045	0.0049	0.54	0.79	0.73	0.28	0.28	0.29
18	0.029	0.0041	0.0044	0.0048	0.63	0.88	0.82	0.38	0.38	0.39
24	0.028	0.0039	0.0042	0.0046	0.72	0.95	0.90	0.46	0.48	0.49
30	0.026	0.0037	0.0040	0.0043	0.79	1.02	0.97	0.57	0.57	0.58
36	0.025	0.0035	0.0037	0.0040	0.80	1.08	1.03	0.66	0.66	0.66
42	0.023	0.0032	0.0034	0.0037	0.92	1.12	1.07	0.73	0.73	0.74
48	0.020	0.0029	0.0031	0.0033	0.97	1.15	1.11	0.80	0.80	0.81

Table II. Value of Constants in Chain Conveyor Power Formulas as Given on Page 509 of the March 25 Issue of BRICK AND CLAY RECORD.

chain, of approximately 18-inch pitch. There are several different forms of this carrier on the market. The differences in these carriers are principally in the method used to empty the buckets at the discharge point, the method used to close the gaps between adjacent buckets to prevent spillage, and the method of driving the conveyor. In one form of carrier, the buckets are made with an overlapping lip, in a second a roller is introduced between adjacent buckets, etc. The roller chain is carried and guided by a track composed of standard tee-rail. This rail is mounted on special cast-iron rail chairs, both horizontal and vertical runs. The buckets can be dumped at any desired point by means of an adjustable dump mechanism, which may be set wherever desired.

As the buckets are pivoted and always remain in the horizontal position, except when being dumped, this conveyor can be used for handling material both horizontally and vertically. The pivoted bucket carrier is generally installed in power plants, so arranged as to handle both coal and ashes in the same carrier. It is installed in the form of a loop, running thru the basement, up one end of the boiler house, over the top of the overhead coal storage bunkers and down the other end to the basement. Coal is discharged from the receiving track thru a track hopper, feeder and crusher, into the pivoted carrier in the basement, and carried up to the overhead storage bunkers. Ashes are dropped from the ash pits into the horizontal run in the basement and carried up to an overhead bunker for storage.

ADVANTAGES OF PIVOTED BUCKET CONVEYORS

Pivoted bucket conveyors possess the following advantages:

material itself is therefore eliminated, and the power required for operation reduced to the minimum.

2. The ability of the one machine to elevate and convey avoids transfers, which are always troublesome, take up valuable space, and necessitate deep pits. The driving connections are also correspondingly simplified.

3. The material is readily discharged at any desired point.

4. The operation is comparatively silent, and as they are run at slow speed, there is little vibration.

Figure II illustrates the Peck carrier pivoted bucket conveyor, as manufactured by the Link Belt Co. Coal is fed to the crusher by the "reciprocating feeder" which is usually placed directly under the track hopper. The feeder consists of a heavy steel plate, mounted on rollers and having a reciprocating movement, effected by a crank mechanism from the carrier. The amount of coal delivered depends upon the distance the plate moves, and this can be varied by changing the throw of the eccentrics. The number of strokes corresponds to the number of buckets. Any size coal can be readily handled. When the distance from the track hopper to carrier is so great that the reciprocating feeder is not practicable, a continuous or "belt" feeder is used to supply the crusher with fuel. The "equalizing gear" is designed to impart a pulsating motion to the driving sprocket wheel, which will counteract the natural pulsation to which long pitch chains are subject, producing violent increase of the normal strain at frequent intervals. This is accomplished by driving the spur wheel with an eccentric pinion, causing the pitch line to describe a series of undulations, corresponding to the number of sprockets on the chain wheel.

METHOD OF HANDLING COAL AND ASHES

Figure IV (supplied by courtesy of Prof. Gebhart) shows the method of handling coal and ashes in the power house of the South Side Elevated Railway. Coal is discharged from the railway cars into a track hopper and from there delivered by a "feeding apron" into a crusher which reduces it to such a size as can be conveniently handled by the stokers. It is then discharged into a short apron or pan conveyor, which carries it to the main system of buckets and it is elevated to the proper level and discharged into the overhead bunkers. The ashes are dumped from the ash pit thru a series of chutes into the lower run of buckets, by which they are elevated and discharged into the ash hopper.

In Figure V we illustrate the use of a combination of conveying systems at the Connors Creek Plant of the Detroit Edison Co. The coal enters the train shed in drop-bottom cars, usually of the 50-ton size. The cars dump into the hopper under the tracks in the train or coal shed, there being one hopper for each unit of one turbine and two boilers. A motor driven variable speed flight conveyor with a capacity of 120 tons per hour receives coal from the hopper, carries it up a rather sharp incline and discharges it into a four-roll motor driven crusher of similar capacity. This crusher breaks from 18-inch cubes, or smaller to 100 per cent., thru

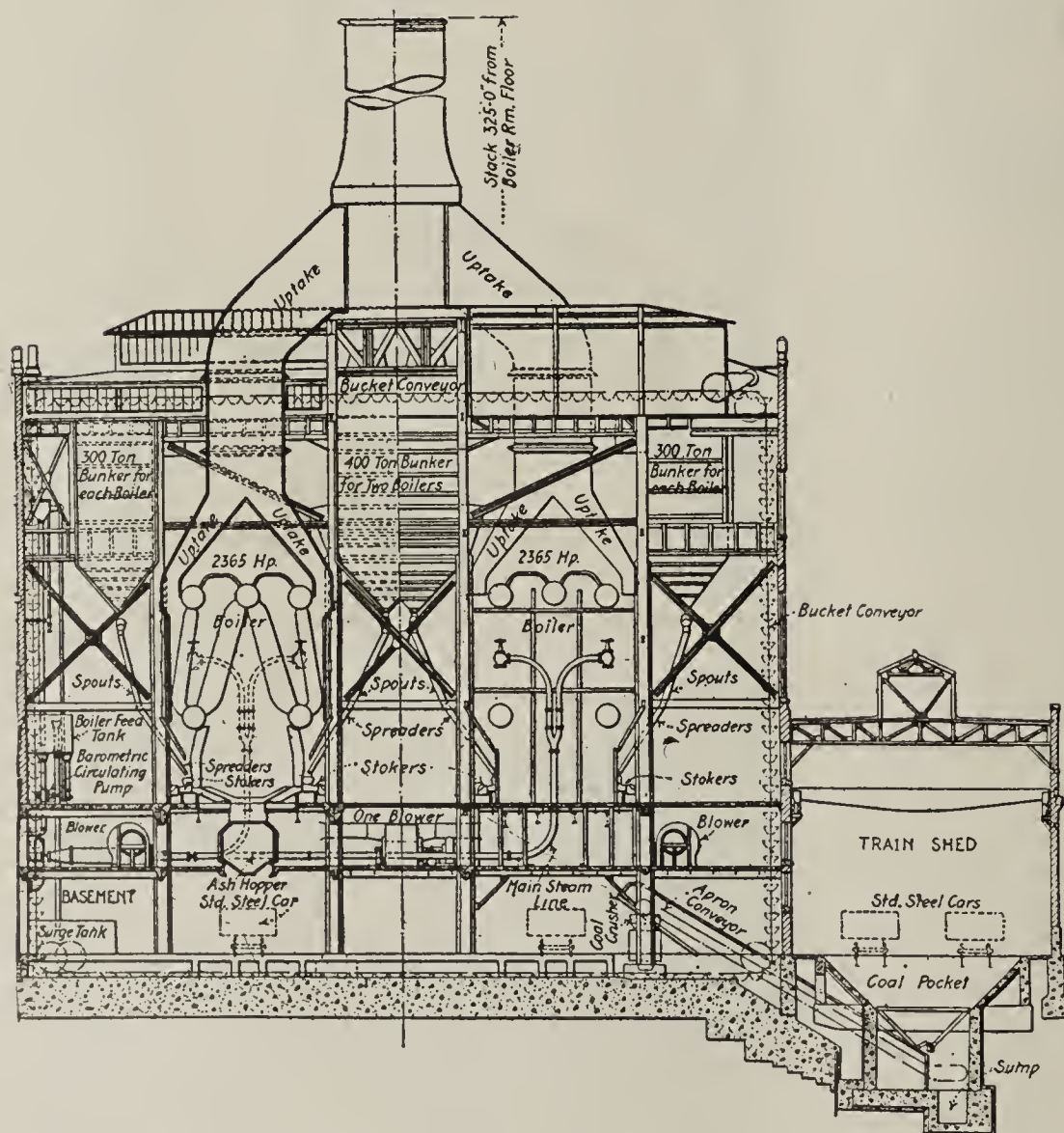


Fig. 5. Coal and Ash Handling System, Connors Creek Plant, Detroit Edison Co.

1. The material is carried and the buckets are supported by rollers. Destructive friction and injury to the

a 1¼-in. ring.

The crusher discharges into a motor-driven variable

speed hopper bucket conveyor, with 30 to 36-inch buckets. This conveyor forms an endless chain which entirely encloses the section of the boiler house. It carries the coal up on the side nearest the coal shed and discharges it into any one of the three coal bunkers which sieve the two boilers of one unit.

The hopper, pan conveyors, crusher and bucket conveyors for each unit of one turbine and two boilers, are so located that they can deliver chutes to one adjacent range of bunkers serving thus as a spare for that range.

An estimate of the power required for any proposed installation of pivoted bucket conveyors can be obtained by reference to the formula given for V-bucket conveyors, subtracting 10 per cent. from the final figures.

The use of pivoted bucket conveyors is generally regarded as the best method of conveying coal in the power plant. Unfortunately, it is probably the most expensive installation, usually requiring, in addition to the investment in the equipment itself, special boiler house construction. As local conditions may make its adoption to plants already in existence impracticable, we will take up next month the consideration of belt conveyors, hoists and mono-rail systems.

* * *

J. P. Yoder Becomes Secretary of the Federal Trade Commission

J. P. Yoder, formerly special examiner of the Federal Trade Commission, was sworn in on April 1, as secretary to the commission to succeed Leonidas L. Bracken, who resigned recently to resume the private practice of law.

Mr. Yoder left the commission in February, 1918, being commissioned a captain in the Army Sanitary Corps. He has but recently returned from service in France.

Prior to his former connection with the commission, Mr. Yoder was manager of the Washington bureau of one of the large press associations. He was born in Kansas, but has lived mostly in Washington. He did newspaper work also in Boston, New York and Chicago.

* * *

Analysis of Building Figures in Chicago

An analysis of building permits issued in Chicago in the last three weeks of March this year show that in the week ending March 15, 49 permits were given for 73 residences, 4 stores, 4 factories, 2 storage warehouses, and 4 miscellaneous buildings for a total of 87 structures. For the week ending March 22, the figures are 58 permits for 80 residences, 1 store, 3 factories, 5 storage warehouses, and 4 miscellaneous buildings, making a total of 93 structures. During the week ending March 29, permits were issued for 148 buildings divided among 124 residences, 6 stores, 6 factories, 5 storage warehouses, and 7 miscellaneous buildings.

For the first period mentioned above there were no permits issued for buildings valued at over \$100,000, 2 over \$50,000, 19 over \$5,000 and 28 less than \$5,000 and a total of \$521,000. In the second period there were 2 permits for structures over \$100,000, 3 over \$50,000, 19 over \$5,000, and 34 less than \$5,000 and a total of \$1,370,500. For the last week in March the figures are 3 over \$100,000, 3 over \$50,000, 42 over \$5,000, and 40 less than \$5,000, or a total of \$1,437,000.

These figures show that the demand is mainly for small buildings valued at around \$5,000. However, reports indicate that for the month of April the demand for larger structures is increasing. At the present time the state in-

vestigation on cost of structural materials is holding back the demand for building construction that is expected to be very good this spring in Chicago.

* * *

Arthur Durand Rogers

It is with feelings of the deepest regret that *Brick and Clay Record* announces to its readers the passing on of Arthur D. Rogers, who, for a period extending over twenty-five years, was editor of "The Brickbuilder," the name of which was later changed to "The Architectural Forum."

Mr. Rogers was one of the best known and best beloved men in the world of brick. The best years of his busy and useful life were unselfishly devoted to an ideal—the development of architecture in America, and in this development he has built an understanding and an appreciation of brick that has done more to create a wholesome and vital clay architecture in America than many other forces combined.

From the beginning of his career in the brick world, Mr. Rogers has wielded an immense influence for the more intelligent use of brick. He has consistently advocated brick as the logical material with which to create an architecture that bespoke a young, honest and virile nation, which was building for a posterity unlike the people of any country that had gone before it.



ARTHUR DURAND ROGERS

Arthur D. Rogers had a wholesome, sunny disposition, a rare sense of humor and a sane appreciation of the things that make life worth while. It was a privilege to know and associate with him. His whole career was one of public-spirited service and his work will endure as the mark of a successful life.

* * *

According to recent reports, J. B. Owens, of Zanesville, Ohio, will establish a large tile factory at Havana, Cuba. The problem of securing labor in Cuba will be overcome in large part by taking American workmen to the Havana plant.

HOW *to* MAKE *the* BEST SILICA BRICK

Firing Is the Most Important Factor, While the Nature of Quartz and Fluxes and Proportion of Impalpable Material Determines Resistive Properties

By H. Le Chateleir and B. Bogitch

*Noted French Experts on the Manufacture of Silica Brick. From a Paper Presented at a Meeting of the American Institute of Mining Engineers in Milwaukee
Reprinted from the "Iron Trade Review"*

SILICA BRICK are indispensable in the manufacture of steel because they alone are able to stand the high temperature of regenerative furnaces. All attempts to replace silica brick by other refractory materials for this purpose have failed, but the reason for this failure has remained obscure. If one were to ask steel metallurgists what are most important and necessary qualities of silica brick they would almost unanimously reply that there was one only—the brick should permit the greatest possible number of runs without necessity for repairing furnace roofs. They might suggest 400 runs as a satisfactory figure. Durability, however, is not the only factor. The brick have to be transported from the factory to the steel works without being injured by jarring or freezing and it is necessary that they shall not be too expensive. Considering first the subject of durability of furnaces we have arrived at the provisional conclusion that the destruction of the roofs of steel furnaces may arise from five possible causes, ranking in the following order of diminishing importance:

Superficial spalling of the brick under the influences of the highest temperature developed in the furnace. This phenomenon is often noticed in the form of a continuous rain of little fragments, the falling of which may after a few days lead to the entire disappearance of the brick. It depends upon two properties of the brick; expansion of silica under high temperatures and lack of mechanical strength at these same high temperatures.

Superficial melting of the brick. Brick always melts

superficially and continuously under the action of the spattering slag. This normal destruction of brick may continue for several months before leading to an actual cavity in the roof, but often the brick will melt all at once for a considerable width, several centimeters at a time. This phenomenon depends upon the fusibility of the brick itself and upon its permeability which facilitates the absorption of slag on the exposed surfaces.

FLAKING DUE TO PHYSICAL TRANSFORMATION

Flaking or shelling of the brick in the less intensely heated region. This phenomenon is caused by the excessive dilation which is shown by all crystalline silicas at their temperatures of reversible transformation. Quartzose rocks decrepitate at a temperature of about 570 deg.

C.; cristobalite, heated at 230 deg. C., undergoes an abrupt change in dimensions and tridymite, undergoes a change of slight importance at 150 deg. C. This tendency to rupture is off-set by mechanical resistance of the brick and by its structure, that is, by the size of its grain and its amount of porosity.

Dislocation of the roof by ex-

cessive expansion. In furnaces made of silica brick the roof always rises more or less when the furnace is first put into operation, this rising often becoming excessive and irregular from point to point. This dislocation results, the same as spalling, from expansion of silica. If the brick is sufficiently resistant and is heated over a considerable width all at once it does not spall but causes the roof to rise.

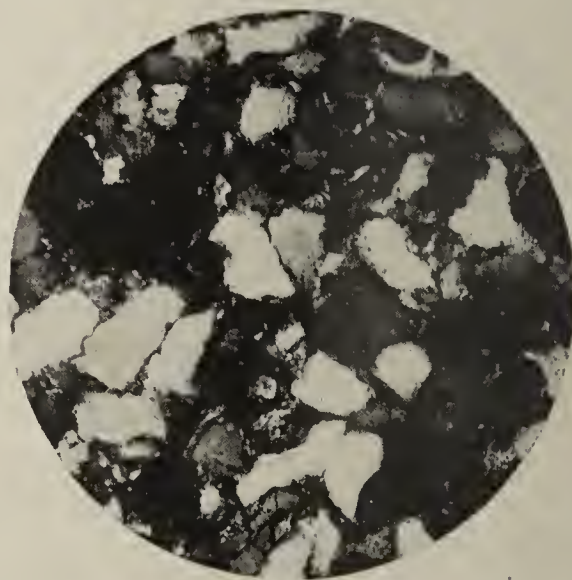
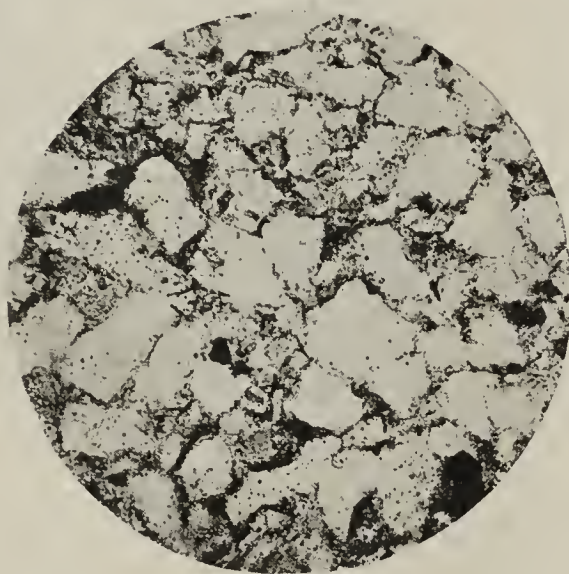


Fig. 1—Carbonaceous Sandstone from Sheffield; Ganister, Used for the Manufacture of Silica Brick. Dissemination of Mica Between the Quartz Grains. Natural Light; Magnification, by 136. Fig. 2—Same Sample as Fig. 1 Under Polarized Light.

Collapse of the roof. The frequency of this accident with clay, magnesia, and aluminum brick makes it impossible to use these materials for the construction of the roofs of furnaces intended to maintain high temperatures. Collapsing results from softening that precedes fusion and depends upon the same factors as fusibility. It is rare in silica brick, being counterbalanced by the expansion of the quartz resulting from its transformation into silica of low density.

SAND NOT SUITABLE FOR SILICA BRICK

It is well known that silica exists in five allotropic forms, quartz, cristobalite, tridymite, chalcedony and glass quartz being the universal raw material for the manufacture of silica brick. Deposits of quartz can be grouped into four classes: First quartz veins, consisting of large crystals adjoining one another, forming rocks of translucent or opalescent white masses. Second, quartzite, as shown in Figs. 3, 4, 5 and 6, metamorphic rock in which the grains of quartz are so strongly cemented together that upon breaking the rock the fractures traverse the grains of quartz rather than their boundaries. Quartzite contains impurities in variable proportions sometimes mica, lodged between the grains, and sometimes oxide of iron, included in the quartz crystals. Third sandstone (Figs. 1 and 2) the grains of which are combined by a cement having but little resistance in which fracture occurs by the separation of the grains giving a dull luster to the fractured surface and fourth, sand, the grains of which are separated and the purity of which is variable. An important character of sand is the uniformity in size and shape of its grains, objectionable in the manufacture of brick.

Most factories employ quartzite containing not more than 3 per cent. of basic oxides and mix with it 2 per cent. of lime. The crushing of the rock is conducted in such a manner as to preserve a number of large grains having a maximum size of between five to ten millimeters. The firing is performed at a temperature from 1,350 to 1,450 deg. C. Firing progressively reduces the density of silica; quartz transforms first into cristobalite and finally into tridymite.

Before attacking the problem of the manufacture of silica brick we sought to answer an allied problem: Is it possible to find certain measurable properties of refractory products which will explain the superiority of silica over clay, alumina and magnesia? In previous experiments it had been noted that the melting point of silica brick was not higher than that of other refractory products. Kaolinite melts at 1,800 deg. C., the same as silica while alumina and magnesia melt at much higher temperatures. These latter materials should, therefore, afford brick at least as good and perhaps better than quartz. But instead of determining simply the melting points as had often been done be-

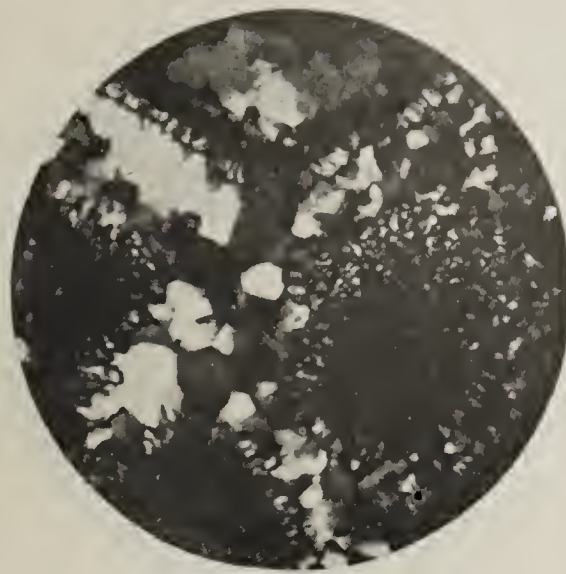
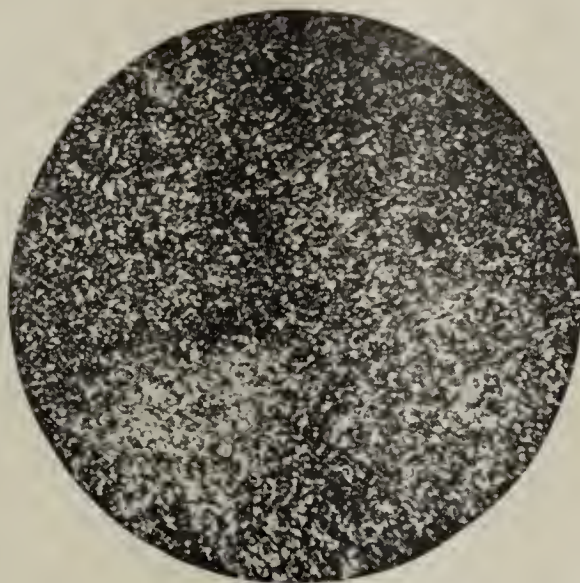


Fig. 3—Souvigny Quartzite with Dull Fracture. Material of First Quality. Polarized Light; Magnification, by 136. Fig. 4—Souvigny Quartzite with Ribbon Structure. Material of Second Quality. Chalcedony Concretions About the Quartz Grains. Polarized Light; Magnification, by 136.

fore, we decided to measure the compressive resistance of these materials thruout the range of temperature.

SILICA BRICK RUPTURES DIFFERENTLY

It became apparent from our experiments that at 1,600 deg. C., which is 100 degrees below the temperature of the Siemens-Martin furnace, silica brick has a compressive strength much higher than that of the other refractory products. Furthermore, a factor which is of no less importance, the silica brick broke abruptly at all temperatures; they did not register any progressive deformation before rupture. With clay and magnesia brick the results were entirely different. At temperatures below 1,000 deg. C., they broke abruptly like rigid bodies but at higher temperatures they yielded little by little like plastic matter. If instead of making these tests in about one minute's time, as in our investigations, the application of the force had been prolonged 1,000,000 times longer as occurs in the roofs of furnaces the brick would have yielded under pressures so small as to be practically negligible, having somewhat the character of rosin at ordinary temperature. To rupture such materials abruptly an impact is necessary; left to themselves they yield under their own weight and spread out level like a liquid.

The transformation from complete solidity to complete viscosity is progressive. Within a certain range of tem-

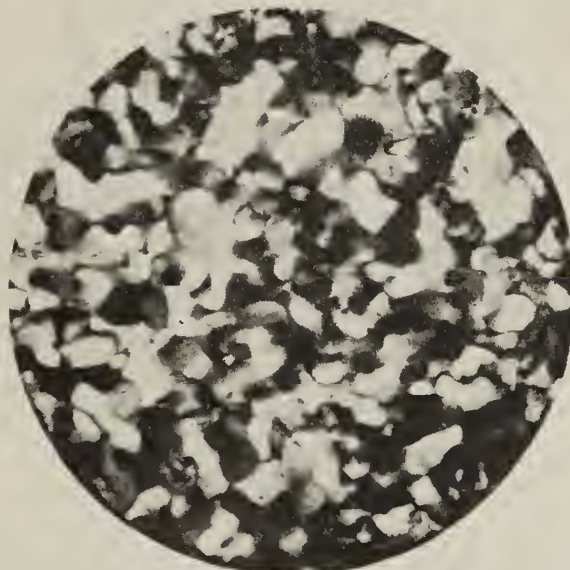


Fig. 5—Quartzite Containing Chalcedony. This Disintegrates on Firing and Cannot Be Used for the Manufacture of Silica Brick. Polarized Light, Magnification, by 136. Fig. 6—Quartzite with Deformed Grains Cemented by Opal or Chalcedony. Undesirable for the manufacture of Silica Brick. Polarized Light, Magnifications, by 136.

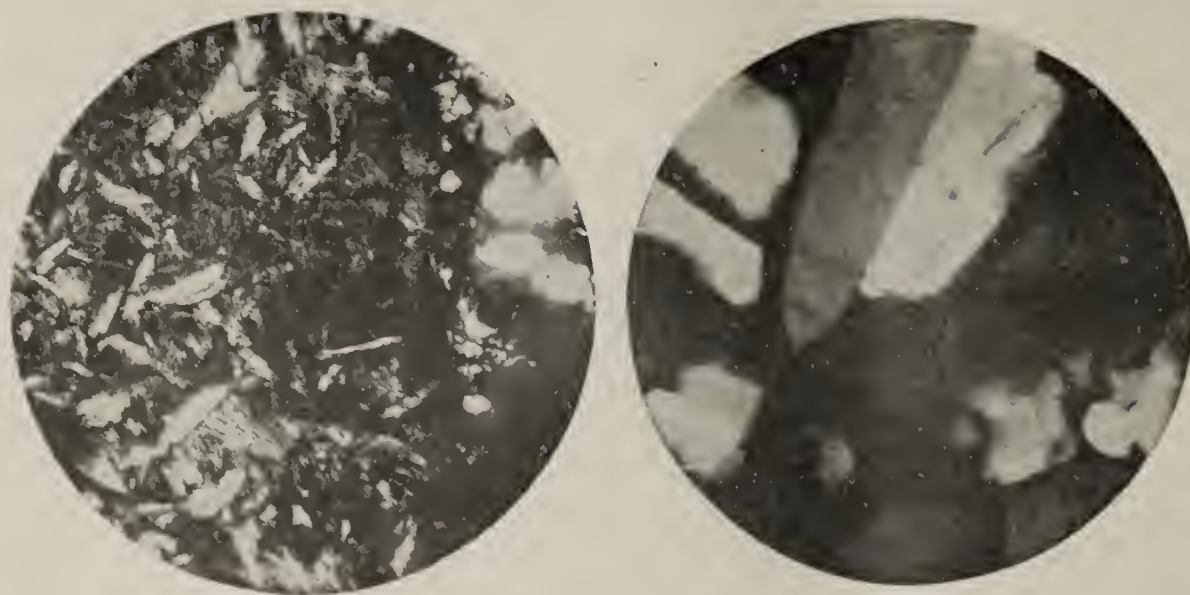


Fig. 7—Well Fired American Brick with Network of Tridymite Between the Quartz Grains Which Are Almost Completely Transformed Into Cristobalite. Polarized Light; Magnification, by 136. Fig. 8—Assailly Brick Remaining for a Year in One of the Flues of a Martin Furnace. Complete Transformation Into Coarse-Grained Tridymite, with Characteristic Inclusions. Polarized Light; Magnification, by 136.

perature an initial deformation is followed by a true rupture. Complete viscosity is attained above the following temperatures; Silica brick 1,700 deg. C., Euboean magnesia 1,500, Styrian magnesia 1,300, Kaolin brick 1,300, ordinary refractory brick 1,200. The ability of silica brick to preserve their rigidity at highest temperatures explains their superiority for furnace manufacture.

POLARIZED LIGHT USED TO EXAMINE SECTIONS

As a means of reducing this factor to its simplest terms we began with an examination under polarized light of thin sections cut from brick of good quality and which showed the highest compressive resistance, 30 and 40 kilograms per square centimeter, at 1,600 deg. C. They were composed of large, easily recognized grains of the original siliceous rock, completely transformed into cristobalite and surrounded by a magma formed of little elongated crystals of tridymite, as shown in Fig. 7. The rigidity of the brick was evidently due to the crystallization of tridymite which forms a continuous network in the meshes of which the fusible silicates are lodged.

In magnesia brick and also in clay brick manufactured under ordinary conditions this recrystallization does not occur. The slightly fusible material, magnesia, forms

isolated grains which are surrounded at ordinary temperatures by a magma of solid silicates. The latter, however, melt at about 1,300 degrees C., if ferruginous or at about 1,500 degrees C. if purely magnesian. Above these temperatures the solid grains swim in a melted mass and can slide on one another.

Quartz is unstable at temperatures above 800 deg. C., but owing to its remarkable passive resistance it is able to remain for a long time in that condition at temperatures up to 1,600 degrees. If it is then brought into contact with a solvent, melted silicates for example, it dissolves in that with a readiness much greater than that of the more stable forms of silica, cristobalite and tridymite. This is due to thoroly established laws of physical chemistry. The quartz thus

gives rise to a supersaturated solution from which one of the more stable varieties soon begins to crystallize. The melted mass being no longer saturated with respect to quartz is able to dissolve additional quantities of it. Gradually the entire amount of quartz recrystallizes into the variety that is most stable at high temperatures, tridymite. In practice, if the firing of silica brick has not been sufficiently long the proportion of cristobalite and sometimes of quartz is greater than that of tridymite in the finished product of poor grade. Burning for almost a month at the highest temperature of the steel furnace is necessary to transform silica completely into tridymite. The crystals of tridymite thus formed by solution attach themselves to one another and form the network previously mentioned.

ESSENTIAL PROPERTIES OF SILICA BRICK

The essential properties of silica brick are fusibility, compressive strength at high temperature, permeability, expansion, dilation and compressive strength at ordinary temperature, while elementary factors are the nature of quartz, size of particles, nature of fluxes, proportion of fluxes, thoroness of mixing, tempering water, pressure of molding, temperature of heating and duration of heating.

Fusibility depends on the presence of basic oxides mixed with the quartz and on the conditions of manufacture. The quartz employed for silica brick is almost never pure. The average composition of silica crushed and ready for use: Alumina, 1.5 per cent; oxide of iron, 1.0; magnesia and alkalis, 0.5; silica, 97.0. As a binder, lime to the extent of 2 per cent. is always added, thus making a total of 5 per cent. of basic oxides. If this is computed to the condition of sulphate, after attack by hydrofluoric acid it represents a total of 12 per cent. of sulphate. Brick containing above 15 per cent. of sulphate are useless for steel furnaces and good brick should not contain more than the equivalent of 10 per cent. sulphate. The effect of the method of manufacture upon the fusibility of the brick is unques-

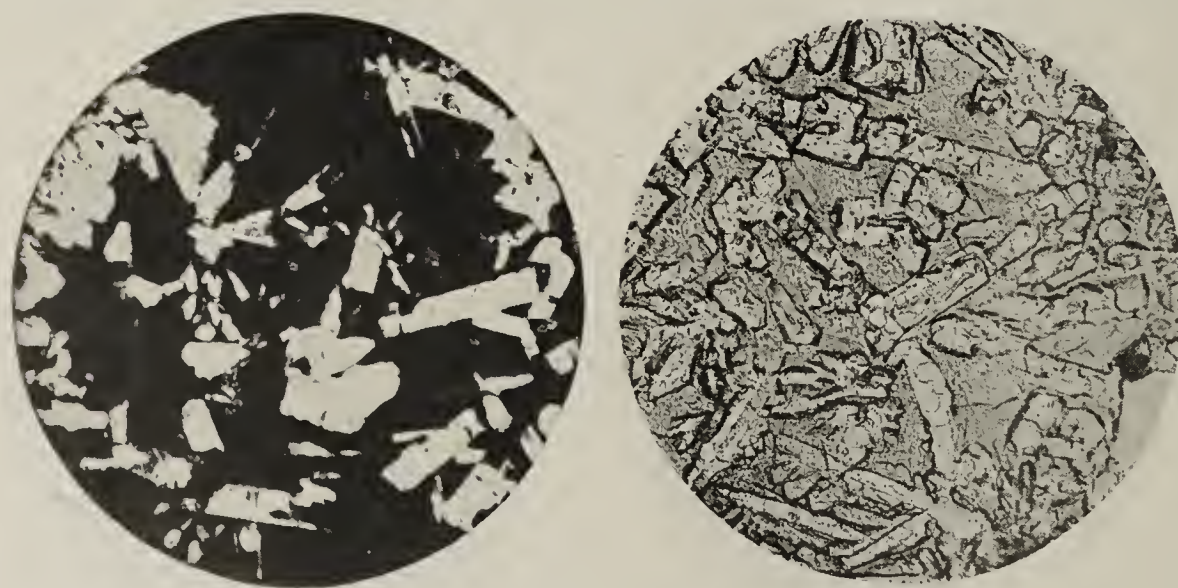


Fig. 9—Tridymite Crystals Surrounded by a Solution of Magma. Brick Obtained on Dismantling the Roof of a Martin Furnace. Columnar Crystals and Rectilinear Cleavages Characteristic of Tridymite. Natural Light; Magnification, by 136. Fig. 10—Cristobalite Crystals Submerged in a Transparent Glass. Material Derived from Relining of a Bessemer Converter at Sheffield. Circular Cleavages Characteristic of Cristobalite. Natural Light; Magnification, by 136.

tionable. Brick having a perfectly normal chemical composition are often found to fuse at the temperature of steel furnaces giving rise to a granular mass in which the large grains of silica are mobile. This arises from the absence of a sufficient amount of fine material in the mixture and from a firing not sufficiently complete to permit the development of a proper network of tridymite. According to our investigations the proportion of impalpable material, that is, quartz passing thru a screen of 4,900 openings per square centimeter (approximately 200 mesh), should be at least 25 per cent. Adopting that proportion at the first test we obtained a compressive strength of 30 kilograms per square centimeter after heating for one hour at 1,600 deg. C., which is comparable to the strength of the best commercial brick.

STARTING OF FIRES MAY AFFECT BRICK

Shelling or rupturing of brick at low temperatures arises principally from the change in volume which the different varieties of silica undergo during their reversible transformation. The transformation of cristobalite accompanied by a linear expansion of 1 per cent. is the most serious. Every time a brick containing a large proportion of cristobalite passes quickly thru the temperature of 225 deg. C., crevices are produced which diminish the rigidity of the brick. According to the experiments of one authority a single heating to above this temperature followed by cooling in the air reduces the compressive strength of silica brick by 50 per cent. For this reason it is impossible to utilize silica brick in furnaces which will be allowed to cool periodically; under such conditions the brick will become fissured and almost completely disintegrated in a short time.

Wood fires which are frequently employed for starting the operation of a steel furnace are particularly dangerous by reason of the irregularity of their heating effect, regions of high temperature necessarily occurring above the points at which combustion is most active. It would be desirable to avoid wood fires at steel works, as has been done at glass works, by using currents of hot air with progressively increasing temperatures.

Expansion, leading to the superficial spalling of brick and warping of arches at high temperature is due to the change in the condition of silica from that of quartz to a material of less density; mechanical strength of the brick opposing expansion; porosity of the brick permitting expansion to accommodate itself in the spaces between grains and the rate of increase of temperature during heating. Abrupt heating may produce expansion three to six times as great as slow heating in well-conducted kilns.



Fig. 11—Silica Brick Made from Souvigny Quartzite. Circular Cleavages Characteristic of Cristobalite in Large Grains of Quartzite Entirely Transformed by Firing. Natural Light; Magnification, by 34. Fig. 12—Silica Brick Made of Souvigny Quartzite, Showing Fragments of Quartz Not Transformed by Firing. Around the Large Grains is a Border 0.01 Millimeter Deep Produced by the Attack of the Flux. Natural Light; Magnification, by 34.

When the change from quartz to tridymite occurs in a massive unfractured block it causes a linear expansion of about 5.5 per cent. However, by a sufficiently slow firing the apparent expansion can be reduced to 2 per cent., that is, a value that of absolute expansion. This is accompanied by a parallel diminution in the volume of voids. But if the heating during the first firing is too abrupt and the transformation is concluded in the steel furnace the linear expansion may reach 10 per cent. and there would be a considerable increase of porosity rather than a reduction. The brick would become less strong physically, more permeable to slag and more liable to rupture by expansion.

The transformation of quartz, which is intimately related to the important factor of expansion, occurs in three ways: By solution and recrystallization in the melted silicates; by direct transformation of quartz fragments without any other agencies than temperature and the presence of natural impurities in the rock and by direct transformation of the quartz under the influence of foreign bodies which seem to penetrate by diffusion to a certain depth into the grain.

The proportion of basic oxides should not exceed 3 per cent., equivalent to 10 per cent. of sulphate, if ex-

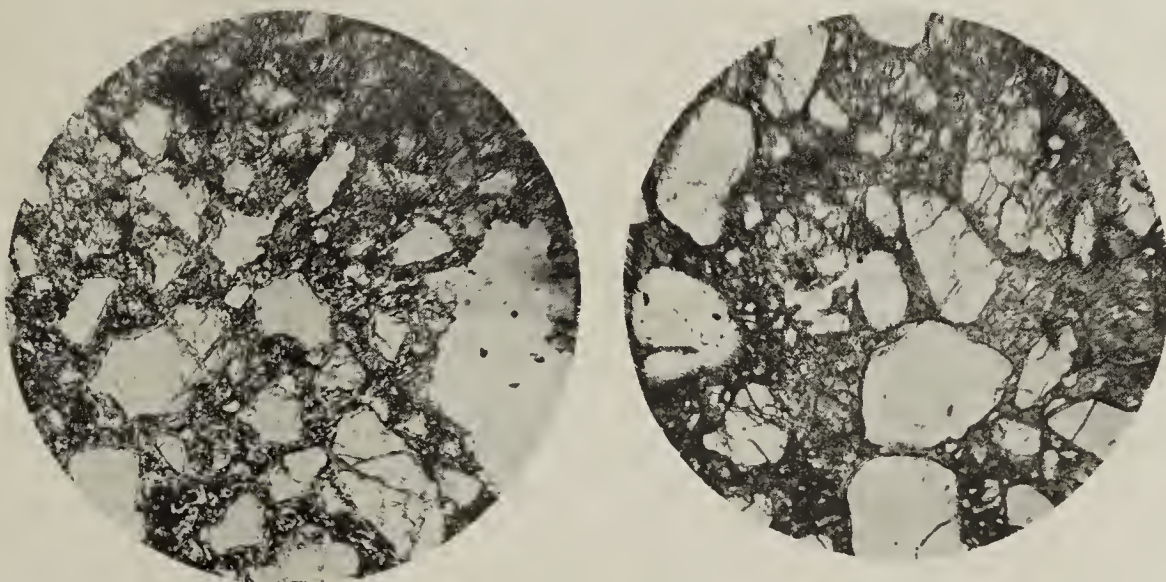


Fig. 13—Insufficiently Fired English Brick, Containing Untransformed Grains of Quartz, Altho Bordered to a Depth of 0.01 Millimeter, by Attack of the Flux. Natural Light; Magnification, by 34. Fig. 14—Insufficiently Burned German Brick Containing Rounded Grains of Quartz; Indicating the Use of a Natural Sand. Natural Light; Magnification, by 34.

cessive fusibility is to be avoided but the percentage of impurity should not be below 1.5 per cent. or excessively high temperatures would be necessary to cause complete transformation of the quartz. An average of 2 per cent. of basic oxides represents good practice thruout the world.

Certain quartzes fall to powder during calcination and cannot yield other than very ordinary brick; the large grains disappearing during this operation. This fault is easily detected by a rapid heating to between 1,500 and 1,600 deg. C., sufficient to cause transformation of the quartz into silica of low density. The defect often appears to be due to the presence of chalcedony, sometimes accompanied by opal. This last form of silica is difficult to distinguish under the microscope but its presence can always be recognized by the loss of weight during calcination. It is always advisable before using a new quartz on a large scale to subject it to a preliminary calcination at high temperature to determine its behavior.

DESIRABLE PROPERTIES OF THE RAW MATERIAL

Rocks of great hardness increase the expense of crushing while a rock that is too soft makes it difficult to obtain large grains, especially those of angular shape. For this reason true quartzites are generally preferred to sandstone altho the latter can be crushed more cheaply. Sands are the worst of all natural quartz materials for this purpose on account of the fineness, the rounded outline and especially the uniformity in size of the grains. Sand can well be used, however, for the preparation of the impalpable material.

The varieties of quartz are transformed with varying ease under the application of heat. For example, quartz broken into grains of less than 1 millimeter diameter, but remaining on a 200-mesh screen (4,900 meshes per square centimeter) is reduced to a density below 2.40 after one hour of firing at the following temperatures: Silex, 1,300 deg. C.; ribbon quartzite from Allier, 1,400 deg. C.; pure vein quartz, 1,500 deg. C. It is not yet possible to say which is the best. It seems well established that silex always yields poor brick; they are light, porous and lack rigidity. Those varieties of quartz which are most difficult to transform seem to yield the best product provided the firing is continued long enough to transform the quartz, high temperature tending to develop, the production of tridymite and diminish that of cristobalitic. Abundance of cristobalite is the principal cause of fracture. At present the preference is generally for quartz which transforms with moderate ease, yielding sufficiently satisfactory products at a moderate cost.

RECOMMEND 25 PER CENT. IMPALPABLE MATERIAL

The necessity for a large proportion of impalpable material is one of the clearest results of our experiments but the amount of impalpable material should not be too large. A brick containing 25 per cent. of impalpable has a crushing resistance at high temperature three times that of a brick containing 75 per cent. of impalpable. We would recommend a proportion of 25 per cent. of impalpable material passing the 200-mesh screen.

Lime is the only flux regularly employed by manufacturers of silica brick; the proportion being between 1 and 2 per cent. One authority has proposed to add to the lime either oxide of iron or alkali. The advantage of a flux containing oxide of iron is that silica is only slightly soluble in it at high temperatures and therefore the tridymite network is less rapidly destroyed than in other fluxes. In Martin furnaces the brick of the roof are often impregnated with oxide of iron to a depth of 10

centimeters without seriously diminishing their resistance to heat. The presence of alkalies greatly facilitates the transformation of quartz into silica of low density, especially into tridymite, but alkalies have the disadvantage of exerting an energetic soluble action on the tridymite network.

Lime alone does not seem a sufficient flux because pure silicates of lime do not fuse until they reach temperatures above those obtained in the firing of silica brick. The quartzites ordinarily employed contain 2 per cent. of alumina and iron, which with the lime yield silico-aluminates and silico-ferrites, fusible at about 1,200 deg. C. When pure quartz is to be employed it seems indispensable to add a certain proportion of oxide or iron.

RECOMMEND INCREASING LENGTH OF MIXING PROCESS

The proportion of water added for the purpose of making the mixture workable should be enough to permit the brick to be carried to the dry house without danger of deformation. Mixing to distribute the flux uniformly thruout the siliceous mass is the more necessary according to the proportions of fine material. We have not yet found a perfectly satisfactory process for controlling the distribution of lime thruout the mixture, altho this is an important factor, determining the quality of the brick. Inasmuch as the mixing operation is not expensive it would be much better to increase the length of the mixing process, even beyond what would appear to be strictly necessary. We would suggest the possibility of using the impact mills which are used for the preparation of molding sand at foundries.

It would seem that for careful manufacture, high-molding pressures are preferable, altho for second-quality brick hand molding may be perfectly suitable. The molded brick must be dried before they are introduced into the kiln because they would otherwise be too soft to permit them to be piled one on another; the abrupt application of heat, furthermore, would cause them to burst or at least crack by too rapid expelling of excessive water.

Firing is the most important feature in the manufacture of silica brick and also the most expensive. The best conditions for firing are not yet fully understood. Tests are difficult to make on account of the length of firing and the dimensions of the furnace in which firing is done. Firing often lasts twenty days and may take place in a furnace holding 200 to 300 tons of brick at once. The maximum temperature of firing is often considerably exaggerated. We often hear of firing temperatures of 1,500 and even, 1,600 deg. C., but we do not believe that any silica brick are ever actually fired at temperatures exceeding 1,400 and we believe this temperature is sufficient, provided it is maintained for a sufficient time.

* * *

Business Men of United States and Great Britain Hold Conference

The Fifth Conference-Lunch of the American Chamber of Commerce in London for the purpose of bringing about closer personal and commercial relations between the leading business men of Great Britain and the United States was held at the Savoy Hotel, London, on Wednesday, March 19. Delegations were present from three of the largest British commercial organizations, from three American organizations and from British labor.

John Blair Macafee, director of the American Chamber of Commerce in London, and chairman of the Chamber's Committee on International Finance, presided.

Edward Manville, president of the British Association of

Chambers of Commerce, who spoke on behalf of the delegation present from that body, to welcome the delegation present from America, expressed his confidence that America would act in such a way as to make it easy for Great Britain to recover her footing in the commercial world as soon as possible.

A. E. Brown, on behalf of the delegation from the Cleveland (Ohio) Chamber of Commerce, explained that the delegation came over for the purpose of getting acquainted but at the same time they were prepared to buy or sell any articles, if British business men so desired. Bankers who could finance such transactions were members of the delegation. Mr. Warner, of the Cleveland Chamber, expressed his belief and desire that the 100 years' peace between the two countries, which had recently been concluded, would be but the beginning of a thousand years' peace, and close co-operation in business as in other matters.

Godfrey Isaacs, welcoming the visitors from America, on behalf of the Federation of British Industries, spoke of the importance of easy trans-oceanic negotiations, and announced that only a few hours before a trans-Atlantic telephonic communication had taken place by wireless between Ireland and Canada. Business men in New York would soon be able to converse clearly and easily with their equals in London by wireless telephone of any kind.

The European Commission of the National Industrial Conference Board of the United States (an organization of twenty-five important trade associations) were present and their chairman, Charles Asbury, spoke of their desire to discuss general industrial problems with the European manufacturer. He greatly appreciated the way in which the Federation of British Industries and other organizations had co-operated with them.

W. A. Appleton spoke on behalf of British labor, and expressed his certainty that a satisfactory co-operative plan for dealing with the gigantic labor problems of the moment would be formed within a very short time. Labor believed that close co-operation between those engaged in business in the two countries would be of the greatest mutual benefit.

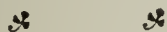


Federal Trade Commission Loses Its Chief Counsel

John Walsh, of Wisconsin, first chief counsel of the Federal Trade Commission, has resigned that post to resume the private practice of law in Washington. His resignation has been accepted to take effect April 15.

In a statement Mr. Walsh assigns as his reason for disconnecting himself with the work of the commission as the inability longer to make the "pecuniary sacrifice incident to government service."

Mr. Walsh, prior to his connection with the commission, was one of the leading figures of the Wisconsin bar, having been actively engaged in law practice in that, his native state, for more than fifteen years. His home is at Washburn, Wis.



Connecticut Brick Manufacturers Organized

Wallace M. Tuttle has been elected president, J. F. Reynolds, vice-president, C. W. King, secretary, and R. O. Clark, treasurer of the Connecticut Brick Manufacturers' Association recently organized. The governing board is composed of the above officers and V. M. Palmer, M. H. Donnelly, and G. A. Pickett. Nearly every brick manufacturer in Connecticut is now affiliated with the new organization and eighteen of these manufacturers are members of the Common Brick Manufacturers' Association of America.

Freight Rates on Stone, Slag, Sand and Gravel Reduced When Used For Government Road Building

Walker D. Hines, Director General of Railroads, on April 11, announced that he has decided, after consultation with the Departments of Agriculture, Commerce and Labor, to reduce the present regularly published tariff rates upon specified road-building materials when for use in federal, state, county, parish, township or municipal government road work.

This will authorize all railroads under federal control to apply rates as shown below on carload shipments of stone (broken, crushed and ground), slag, shells, chatts, cherts, sand and gravel, shipped during the period from May 1 to December 31, 1919, inclusive, when for use in road building or road maintenance, and when consigned to and the freight thereon paid by federal, state, county, parish, township or municipal government.

The reduced rates to be applied on such material shall be 10 cents per net ton less than the regularly published tariff rates in effect for the transportation of these materials for commercial uses at the time shipments move; but with a minimum charge of 40 cents per net ton except that where the regularly published commercial rate is less than 40 cents per net ton then such regularly published rate shall apply.

These reduced rates may be applied on shipments consigned as outlined above but in care of a contractor, provided the freight is paid by the government, and provided proper certification is made by the government thru its properly accredited representative that the shipments are for the use of, and the reduction in the rate will accrue to the government.

The rates authorized are to be applied without publication in tariffs, account government property, but each railroad hauling such material is charged with the duty of seeing that the reduced rates are applied only on bona fide government material where the freight charges saved by the reduction will accrue to the government as indicated above.



\$200,000 Tile Deal Boosts Export Business

The purchase of the West Coast Tile Co., at Fifty-second and Alameda streets, Los Angeles, Cal., by the American Encaustic Tiling Co., of Ohio and New Jersey, is considered a great step toward building up local branches of large eastern manufactories for the purpose of carrying on large export trade. The consideration was approximately \$200,000.

The American Encaustic Tiling Co., with a large plant in Zanesville, Ohio, besides other plants in the East, in taking over the West Coast Tile Co. comes into possession of the largest plant in the West making white tile, of which it makes more than 60 per cent. of all produced on the Pacific Coast.

Frank Philo, a Los Angeles man, will be local manager and Fred Slasor will be factory manager. "The West Coast Tile Co. has been doing considerable business in foreign countries," said Mr. Philo. "This business will now be given special attention. The American Encaustic Tiling Co. recognized Los Angeles as an ideal shipping point. The harbor facilities were found to be perfect, and the geographical location the most logical for proper handling of a large export trade. The West Coast Tile Co. now makes more than half the white tile produced on the Pacific Coast, and we expect to increase the output to at least 90 per cent. of the total produced in the West."

REXALL

DOUBLE -

Back to REXALL

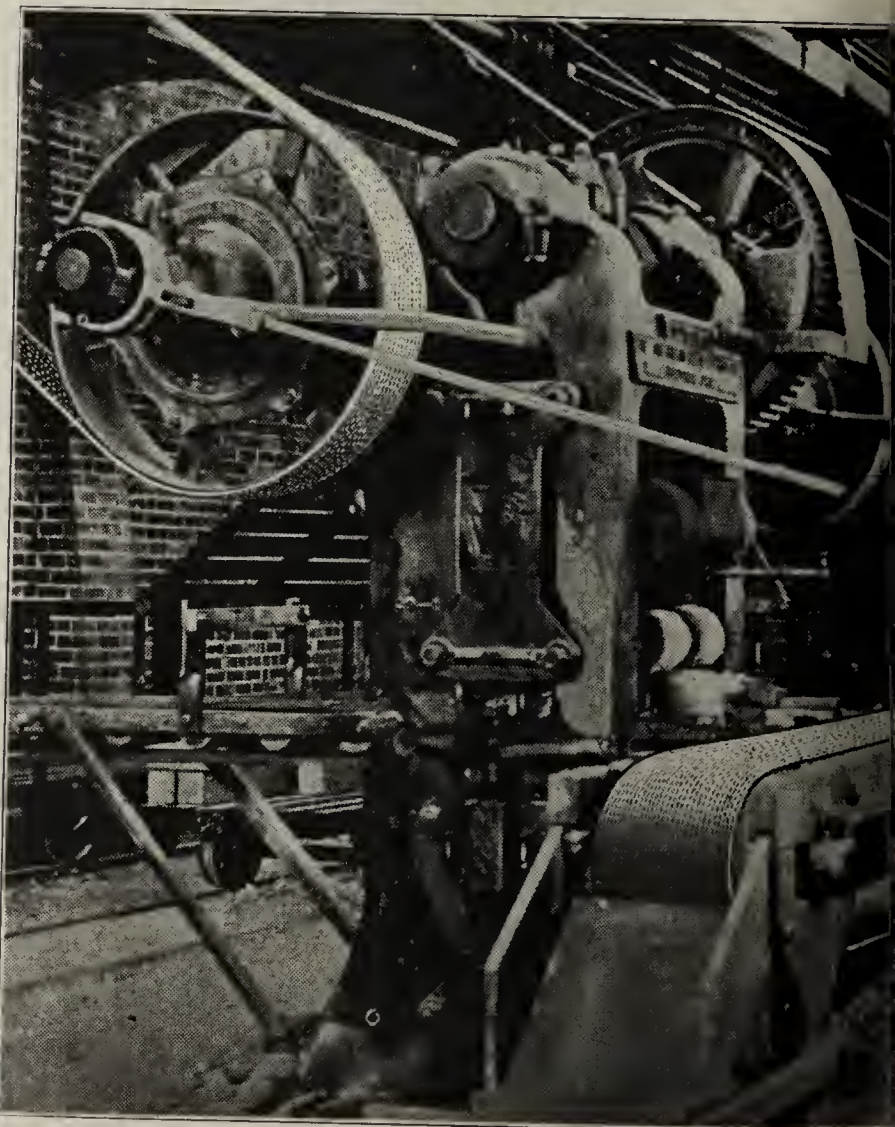
Over 2 miles of REXALL double-stitched conveyor belts are used in a great mid-west establishment. This institution as a test ceased using REXALL conveyor belts for over a year. At the end of that time however, they completely re-equipped the entire plant with REXALL!

Why? Because REXALL gave tonnage far in excess of the difference in the price that prompted the change.

Another great national establishment in 1913, fully equipped its plant with REXALL conveyor belts. Then for three years they tried other makes—the most conclusive possible tests.

But in 1916 they again re-equipped throughout with REXALL—at a cost of \$30,000.

REXALL belts cost less because of the extra-tonnage—these giant industries discovered.



BELTS

STITCHED

The Reason for REXALL Superiority

REXALL double-stitched BELTING is as perfect as modern belt science can make it. We are more thorough in manufacturing processes than you may deem necessary—but that is the reason back of REXALL'S extraordinary record, double some others.

The heaviest practicable fabric, 37½-ounce duck, triple tested in our laboratories—is used in REXALL belts. Others **could** use this weight, but they don't. This fabric is double-stitched, in closer rows and shorter stitches than any other belting. Ply separation is prevented. Edges of belts 10 inches and up are extra re-inforced to guard against the tremendous service strains to which large belts are frequently subjected.

REXALL belts are impregnated, at high temperature, with a specially prepared gum compound that vigorously resists cold, heat, moisture and wear and forms a permanent lubricant and protection to the fabric. Every fibre is impregnated and insulated with this gum compound by our special

process.

REXALL double-stitched conveyor belting will save you money and at the same time solve your conveyor problems. In the brick and clay industry, we know of no other belting that has produced greater tonnage records, at lower cost per ton. Let us give you facts as demonstrated by hundreds of users of REXALL conveyor belting.

If you have a transmission or conveyor problem to solve, let our engineering staff assist you. This service obligates you in no way.

Imperial Belting Company

Main Offices:

Lincoln & Kinzie Sts., Chicago

Branch Offices:

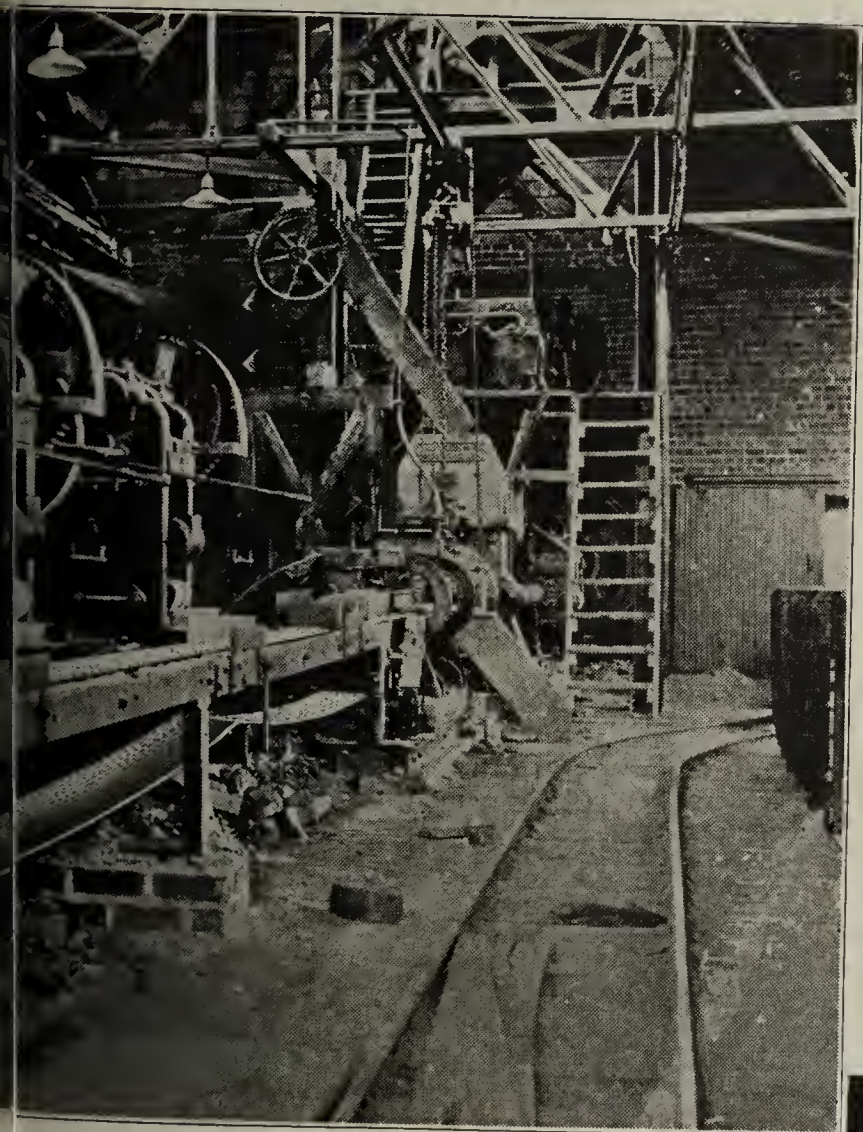
120 Liberty Street
New York, N. Y.

512 Hippodrome Bldg.
Cleveland, Ohio

112 Market Street
Pittsburg, Pa.

924 Kearns Bldg.
Salt Lake City, Utah

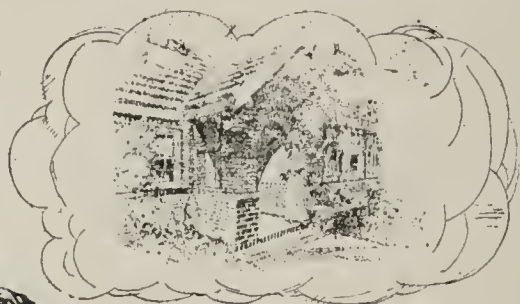
205-209 Kresge Bldg.
Detroit, Michigan



NEWSPAPER ADVERTISING *used* EXTENSIVELY *by* CLEVELAND INTERESTS

WHATEVER THE OUTCOME to the building industry as a result of the repudiation of price fixing on building materials at Washington by the railroad administration, Cleveland, Ohio, brick interests will go right ahead with their united and individual advertising campaigns to stimulate the building industry locally, accord-

Make Your
"Dream Home"
A Real
Home



"Sitting on the Fence"
Never Built a Home.

The Time to Build Is Now,
The Material to Use Is Brick,
The Place to Buy,

The Barkwill-Farr Co
Leader-News Bldg.

Quarter Page Newspaper Copy Which Has Been Inserted
in Cleveland Papers Recently.

ing to E. J. McGettigan, sales manager of the Barkwill-Farr Co., that city.

During the last few weeks this firm has been advertising consistently in a small way, dwelling particularly on the price situation in Cleveland, since the reduction in prices on March 1. The week beginning April 14, it has branched out in a large way, cooperating with the combined advertising of the Material Dealers' Association and individual firms manufacturing or distributing brick and other materials.

The advertising for Barkwill-Farr was designed by Mr. McGettigan with the sole idea of hammering home to the prospective home builder that the home in prospect is hardly substantial enough to live in. Mr. McGettigan proposes to follow this program up at intervals with similar advertising containing the "punch" with a view toward lining up every last possibility in the Cleveland district on a brick home proposition. Incidentally he has succeeded in getting a signed article into local daily newspapers lately, in which he expresses views and facts on the building situation as it is now, and dwelling particularly upon the large returns from investment in building, even tho costs are high, as well as proving that the chances for a return of building costs to prewar levels are mighty slim.

Another firm to go in for individual advertising at this time is the Cleveland Clay Products Co., Leo A. Krueger, president. Large space has been taken for this purpose, in which the already well known trade mark "Face Brick Specialists" on the picture of a brick, will be used, together with a brief description of the different materials carried by the firm.

In more united effort group advertising is being con-

ducted under the supervision of the Material Dealers' Association advocating building in a general way. This week this publicity was supplemented by definite facts, as previously announced in *Brick and Clay Record*, to illustrate for the benefit of the prospective home builder the comparative cost of construction, as far as material is concerned, in Cleveland, with Detroit and Buffalo. The figures, compiled for C. H. Patterson, secretary of the Material Dealers' Association, follow:

Material	Buffalo	Detroit	Cleveland
Common brick, per thousand.....	\$23.00	\$19.00	\$15.00
Hollow tile, 5x8x12, per thousand....	90.00	80.00	50.00
Cement, per barrel.....	4.40	4.00	3.72
Lime hydrate finish, per ton.....	18.00	17.60	14.80
Plaster, sanded, per ton.....	12.00	12.40	11.00
Sand, per ton.....	3.00	3.10	2.25
Crushed stone	3.00	3.25	3.00

Proof of the value of this united and individual advertising and comment is seen by H. H. Crowell, manager for the Cleveland district of the Hydraulic-Press Brick Co. "Apparently people are now satisfied that prices on face brick and other materials are as low as they can go," says Mr. Crowell. "The improvement in this branch of the business lately leaves us no cause for anxiety for the future. Six weeks ago there was practically no demand. Three weeks ago it started, and has kept up ever since. Persons of moderate means seem to be emulating the more wealthy who are planning, in several instances in this section, the erection of residences costing in the neighborhood of half a million dollars each."

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Clay product manufacturers in Ohio and northern West Virginia are interested in the organization of the Ohio River-Great Lakes Barge Canal Association, via Sandusky,

Quality and Service Predominate

FACE BRICK
SPECIALISTS

Let the durability of brick guide in your building.

Let the low prices that exist in Cleveland—and the high standard of quality and service of this organization—help you.

Exclusive agents for Alliance Ruff Brick and Alliance Face Tile, both famous the country over—Glouinger & Company Water Proof Brick—Upper Kitting's Unsurpassed Greys and Bufts—Genuine Harvard Brick—Sewer Pipe—Terra Cotta, Mortar Colors. We are now exclusive agents for Rustique Oriental Brick.

The Cleveland Clay Products Co.

Fourth Floor Schofield Bldg.

Leo A. Krueger, Pres. and Gen. Mgr.
John Scheuer, Sec. and Treas.

Main 5228
Central 376

This Copy Which Is Three Newspaper Columns in Width
Has Also Found Space in the Cleveland Dailies.

Marion, Columbus, Chillicothe and Portsmouth, which was formed at a meeting of business association representatives from a dozen cities. The object of the organization is to boost the selection of the so-called central route for

the building of the proposed canal. Henry A. Williams, president of the Columbus Chamber of Commerce was selected president and J. T. Daniel, secretary of the same organization, will act as secretary. A vice-president will be selected from each of the zones thru which the route passes and these vice-presidents in turn will select an executive committee to have charge of the matter. This executive committee will try to persuade the Government authorities of the greater desirability of the central route over the Miami Valley route. Cities represented at the meeting were Detroit, Sandusky, Fremont, Tiffin, Upper Sandusky, Marion, Delaware, Columbus, Circleville, Chillicothe, Waverly, Portsmouth, Ironton, Ashland and Paintsville, Ky., Bluefield, Huntington, Williamson and Charleston, W. Va.

* * *

"You'll Find It in the Expense Account"

One of our correspondents sent us the following story, which he says has a bearing on the editorial, "A Legitimate Item of Manufacturing Expense":

A certain employer, finding an item covering the cost of a suit of clothes in an expense account turned in by one of his salesmen, drew his pen thru that particular charge and passed the expense account, less the amount in question.

The following month the same salesman turned in an expense account to which no exception was taken. Later the

salesman told his employer that the same suit of clothes was in the expense account, but it hadn't been given the same prominence that was given it the previous month.

Association dues are items of cost, even if they do not appear on the cost sheet. If you do not pay them to the association you pay them in some other way, and probably pay them over and over again, for the association that does not save you much more than the amount of dues you pay into it—or make it possible for you to make that much more profit, isn't a good, up-to-date, cost-saving and profit-assuring association.

It is better to know what you are paying in the way of association dues than not to know how much you are paying thru lack of information on what is going on in the industry in which you are investing your money and a great part of your time and effort.

* * *

At the annual meeting of the stockholders of the National Fire Proofing Co., held in the Fulton Building, at Pittsburgh, Pa., the following were elected directors: E. H. Straub, W. M. Scaife and E. W. Gwinner. A vacancy on the board was caused by the death of President W. D. Henry. Vice-President H. M. Keasbey advised the stockholders that conditions in the building industry were not normal at this time, but that a gradual improvement is noted.



MATERIAL MEN WILL PROTEST UNFAIR LEGISLATION *at* MAY CONFERENCE *in* CLEVELAND

PREPARATIONS for a conference of building material interests from all over the country, a meeting the first of its kind in the history of the material business, already are under way at Cleveland, Ohio, as a result of the controversy developing out of the refusal of Railroad Director Hines to accept materials at fixed prices. The meeting will be a protest against the methods adopted by the railroad administrator, but will primarily seek to re-establish the building industry on a normal basis, and the long anticipated building campaign is expected to be started at this gathering.

ROSSITER RESIGNS FROM INDUSTRIAL BOARD

The high light in the preparedness at Cleveland may be said to be the resignation of W. T. Rossiter, vice-president and general manager of the Cleveland Builders' Supply Co., from the post of assistant director of the construction division of the industrial board at Washington. Mr. Rossiter was expected in Cleveland the latter part of the week of April 14. E. T. Trigg, of Philadelphia, president of the National Builders' Supply Association, is expected to come to Cleveland for the conference. It is anticipated that every brick, clay products and building material interest of the country will have some representation at the meeting. The date has not been definitely fixed, but it probably will be the first or second week of May.

Mr. Trigg, chief of the division where Mr. Rossiter was assistant, has not resigned, according to word received at the Cleveland Builders' Supply Co., altho he has left Washington for Philadelphia. It is understood he is awaiting some action from President Wilson, who has been apprised of the price fixing mixup by cable.

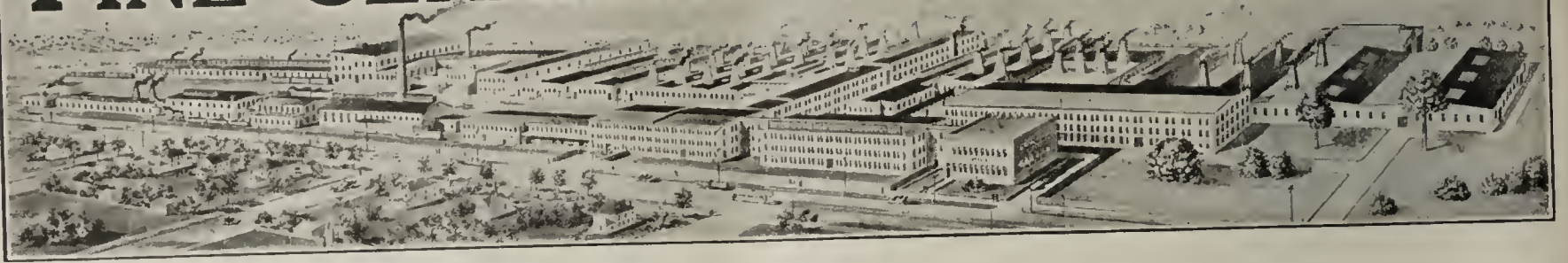
While a protest against the action by the railroad administrator is possible here, it is admitted by John A. Kling, head of the Cleveland Builders' Supply Co., that such action could not affect the situation, and that any change of action at Washington would depend largely upon whether President Wilson will stand by the commission he appointed.

How far reaching the effect of the proposed conference will be may be estimated by the fact that it is proposed to have every angle of the building industry represented—supply interests, architects, engineers, labor interests, financial, including savings and loan associations and material manufacturers.

PAVING BRICK NOT LISTED FOR REDUCTION

Another angle of the arbitrary tactics by the railroad administration that probably will receive early adjustment at Cleveland is the failure to have paving brick listed with the other paving materials for reduction in freight rates. Altho a strong fight has been lined up consistently for the last several months on this and other angles of the industry, word was received here last Tuesday, April 15, from S. M. Williams, president of the Highways Industries Association, advising the National Paving Brick Manufacturers' Association that paving brick was not included with the materials listed for freight rate reduction where 30 cents per mile was substituted for 40 cents per mile. At the moment no definite plan of action has been outlined by officials of the national organization, for the blow has come as a surprise, altho it was known that the issue was in doubt, owing to the severe argument the paving brick industry has had to put up at the capital.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

ARTISTIC AND TECHNICAL PROGRESS SHOWN IN BRITISH POTTERIES



THE EXHIBITION of contemporary pottery organized by the art section of the Ceramic Society has just closed, but the wares are to be transferred from Stoke on Trent to London for the British Industries Fair.

The venture has proved a distinct success, and, tho it has aroused vigorous controversy, that is all to the good as awakening real and practical interest in the movement for improved design. Criticism was to be expected, for the exhibition was a distinct innovation. For the first time, one of our craft industries submitted examples of current manufacturers to the judgment and selection of prominent artist-designers, who set a high standard and rejected all wares which, in their opinion, transgressed the laws of design or good taste. The adjudicators were R. Anning Bell, A. R. A., professor of design at the Royal College of Arts, and W. B. Dalton, principal of the Camberwell School of Arts and Crafts, who had the assistance of two technical advisers, and the result of their selection was a display of wares which in shape and decoration presented a gratifying degree of refinement. The exhibition was not large or really representative of the industry, but it formed a basis from which should develop a more comprehensive display and a better artistic standard.

The bulk of the exhibits were of dinner and tea ware, and reminiscent styles predominated over the modern, tho the latter, in their simplicity and restraint of form and decoration, suggested the beginnings of what it is hoped will eventually be achieved—a school of characteristically English design. The adjudicators made some useful suggestions for extending the scope of the exhibition and for providing greater variety in decorative motifs. Particularly noticeable was the smallness of the display of purely decorative pottery, in regard to which the examiners state they set a higher standard than for articles of utility. During the last decade great progress has been made in the development of color, glaze and luster effects, and the adjudicators' decision in regard to some of the examples which come within this category was possibly open to question.

NEW HARD PORCELAIN

An interesting feature of the exhibition was a collection of examples of the new hard porcelain which has been evolved as a result of the research work conducted by Dr. J. W. Mellor and Mr. Bernard Moore, at the Stoke experimental factory. The new china, which is intended to compete with the German and other Continental hard or felspathic porcelains, is an all-British product and is superior in several respects to the Continental varieties. Its appearance and texture approximate more nearly to the old Chinese than to the German porcelain; it is particularly adapted to the use of under-glaze colors, some of the blue printed ware being particularly charming; and it is capable of taking a wide range of enamel or on-glaze colors, in contradistinction to the Continental hard porcelain, from which enamel colors are apt to chip off.

These exhibits were chiefly shown to display the variety of colors and decorative processes applicable to the new china. Most of the pieces had been decorated at local factories; a few of them had been made thruout at local potteries from recipes, supplied by the experimental factory, and all, with one exception, had been fired at temperatures such as are developed under existing manufacturing conditions.

The new hard porcelain, tho not rivaling in texture and delicacy the Staffordshire bone china, is more highly vitrified, wears better, and remains clean, even if chipped. It can be made much more cheaply than bone china, and in some classes of goods can be made practically as cheaply as earthenware. The difficulty is in the firing of flats (plates, dishes, etc.), and much more research is necessary before flat ware can be made at anything like the price of earthenware. The new porcelain has not reached the commercial stage as yet, but some 50 manufacturers have obtained the recipes and are experimenting under existing conditions before launching out in the way of special factories and ovens.

The newly-formed British Pottery Manufacturers' Federation has held its inaugural meeting, and at the outset of its career anticipated a possible application by the operatives for shorter working hours by instituting a 47-hour week.

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Pottery Clay Import Figures

According to the March, 1919, bulletin containing excerpts from monthly reports on minerals investigations in the Bureau of Mines, Department of the Interior, the following represents conditions in regard to imported clays: While the importation of the Gross-Almerode, Vallendar, and other German clays was entirely cut off during the war, that of English clays was not seriously interfered with. The agitation in this country over the possible curtailment of imports brought the English clay miners to the realization, heretofore not evident, of the extent of our dependence upon their clay, with the result that within about a year their price has

risen nearly 100 per cent. This development has aroused consumers to redouble their efforts to find suitable domestic substitutes. That their search has been at least partly successful is shown by the fact that clay imports have been steadily decreasing and that at the present rate the 1919 total will be only about fifty per cent. of that of a normal prewar year. In 1913, imports averaged 28,177 tons a month, valued at \$5.95 per ton. In 1918, imports averaged 24,916 tons per month, valued at \$5.03 per ton.

Below is given the clay imports during February and first half of March. China clay or kaolin imported during the month of February from England amounted to 11,200 tons, valued at \$114,006, or \$10.20 per ton. In the period of March 1 to 15, the figures were 4,896 tons valued at \$58,309, or \$11.90 per ton. For the same clays imported from Canada during February the following figures are given: Seventeen tons valued at \$330, or \$19.40 per ton.

The value for other clays are: for the month of February we imported 2,849 tons of clay from England valued at \$27,253, or \$9.50 per ton. In the period of March 1 to 15 the figures are: 1,178 tons valued at \$10,714, or \$9.10 per ton. Imports from Canada during February were 1 ton valued at \$11.00. During the period of March 1 to 15 the imports from Canada were 33 tons valued at \$271, or \$8.22 per ton; 357 tons of Cornwall Stone were imported from England during the period of March 1-15 with a total value of \$869, or \$2.43 per ton.

* * *

General Ware Pottery Business Progresses

Business among the general ware pottery manufacturers of the United States continues to show progress. In no plant is a shortage of business recorded. Demand for decorated dinnerware, plain white ware and both plain and decorated hotel ware continues as active as ever. The main reason for this condition is that stocks in the hands of jobbers and department stores is short and the buying rather active. Early in January the big buyers did not anticipate future requirements along the liberal lines of previous buying seasons, at this time ordering what merchandise could be turned over quickly. This has caused the buyers to come into the market with more frequency. The result has been that the manufacturers have been busy at all times, and with increased production, orders are being shipped with more promptness than at any time during the last four years.

The slackening of operations in other industrial plants in the Ohio and West Virginia pottery districts has caused a number of former pottery workers who left the trade to return to their benches. This has caused a greater increase in the production of all lines of semi-porcelain and vitreous china dinnerware and hotel ware. Many from the pottery trade who have been engaged on the battle fronts have returned home, and these boys have once again taken up their tasks in the pottery. Here again is an instance of why production is being increased.

The fact that England and France will not be active in importing earthenware and china into the United States this year and for some years to come, because of the increased home consumption is also a reason why the demand for American-made dinnerware is continually showing an increase. It will be many years before any German and Austrian china is imported into this country, it is said, and then it is a question of how great the demand will be.

Japan is sending a liberal amount of dinnerware into the United States, but the volume is not sufficient to cause any alarm whatsoever. Recently the Jap pottery worker

had his wages advanced considerably, and he is now reported to be receiving as high as fifty cents per day, and the female considerably less.

* * *

Tile Plant Aids in Important War Work

During the latter part of the war, the American Encaustic Tiling Co.'s plant at Zanesville, Ohio, was aiding the chemical warfare service in the manufacture of charcoal for gas masks for the protection of our men from the German poison gas. One of the two Dressler continuous tunnel kilns on this plant was turned over to the Government without reserve or limitation. A force of ninety chemists, under two officers who developed the process, were put at work at the plant under the strictest secrecy. This furnace has been producing charcoal in larger quantities than any other plant in the world, and it has been found that the quality of the product is about double that of the best made elsewhere.

* * *

One of the most interesting incidents in the domestic pottery trade of late has been the report of the low gas consumption of the firing of the Owens continuous tunnel kiln at the plant of the Owens China Co., at Zanesville, Ohio. This kiln has a holding capacity for bisque ware three times as great as the ordinary up-draft kiln now in general use in all potteries. While reports indicate that it requires from 250,000 to 275,000 cubic feet of gas for an upright draft bisque kiln, the tunnel kiln is being fired up to cone twelve on a general base consumption of 58,000 cubic feet of gas. These reports of low gas consumption have been reviewed by pottery manufacturers with considerable interest and it is possible that a number of continuous tunnel kilns of various designs will be built by the general ware concerns during the next year or so. At the Owens plant a line of vitrified hotel china ware is produced.

* * *

The trouble with the sagger makers' union among the Trenton potteries, referred to in previous issues of *Brick and Clay Record*, is now almost a thing of the past, and with the result that the men who walked out of the various plants, aggregating about 150 in number, are without positions—at least the majority of them. The different potteries have been breaking in new men and giving them a thorough training in this work, while in one or two of the progressive plants, sagger-making machines have been installed, which accomplish a considerable part of the work. The pottery owners decided that the men were not justified in their action, which related primarily to the employment of auxiliary labor for the more menial features of the work, and accordingly decided to operate in this department on an open-shop basis.

* * *

The Cook Pottery Co., Trenton, N. J., is now working on the basis of an eight-hour day, instead of nine hours as heretofore, and under the working plan as now operative, the employes are averaging about the same amount in wages for this shorter day. In the textile porcelain end of the works, employment is being given to about 200 persons, and this department is exceptionally busy at the present time. In fact, the demand for the porcelain spirals made in various sizes is greater by far than the supply. This section of the works is operated as a branch organization of the electrical porcelain plant. The company also operates the Euturia Pottery in the vicinity of North Clinton street,

this works division being used for the manufacture of china-ware.



The different potteries at Trenton, N. J., specializing in general ware, such as china, tableware for hotels, etc., are busy at the present time. The electrical porcelain plants, which slackened in production a little during the early part of the year, are again picking up, and inquiries are being received in good number from large electrical manufacturers for various standard porcelain specialties. The local sanitary potteries are operating at rather low ebb, and conditions in this branch of the industry are generally quiet, with production running as low as from 35 to 40 per cent. at certain plants. This condition is the reflection of the past non-activity in building work, and plants of this nature will be among the last to feel the effects of a resumption of construction operations.



George C. Thompson, head of the Thompson Pottery Co., and President Homer J. Taylor, of the Knowles, Taylor & Knowles Pottery Co., and President Josiah T. Smith, of the Smith-Phillips China Co., of East Liverpool, Ohio, have returned to their desks after spending a spring holiday in Florida. Secretary-Treasurer W. Edward Wells, of the Homer Laughlin China Co., and Secretary Robert T. Hall, of the Hall China Co., also of East Liverpool, Ohio, have returned home from a three weeks' stay at Asheville, N. C., where a season was spent on the golf links there.



Edward J. Owen, general manager of the Southern Potteries Co.'s plant at Erwin, Tenn., when in the East Liverpool district recently, announced that general business with his firm was the heaviest since operations were started several years ago. The plant is the only one of its character in the South, and the majority of its labor has been obtained from the Eastern Ohio pottery district. It is possible this firm will soon complete plant for the construction of another seven-kiln unit plant at Erwin, and plans for such an improvement have been completed.



It is now estimated that over a dozen new dinner shapes will be placed on the market for the 1920 trade next December. The majority of these new shapes will be of a plain design which will permit the widest latitude in decorating. On account of the war, no new shapes, with one possible exception, have been placed before the buyers in several years. Modelers are very busy and the bulk of the new shapes have already been ordered, deliveries to be made as early as possible.



The W. S. George Pottery Co., of East Palestine, Ohio, has bought the plant of the Wick Pottery Co., at Kittanning, Pa., altho the George interests have been operating this pottery for a number of years under a lease. In addition to operating at East Palestine and Kittanning, Pa., the firm is also operating a large pottery plant at Cannonsburg, Pa. A general line of plain white and decorated semi-porcelain dinner ware is the product of all three plants.



After being in operation for several years at Roodhouse, Ill., the Illinois China Co. will remove its plant to Lincoln, Ill., and contracts have already been awarded for the con-

struction of three bisque and two glost up-draft kilns to the Gamble-Bryan Co., of East Liverpool, Ohio. J. W. Smith is the general manager of this company. Vitreous dinner ware will be the principal product of this plant, and operations are expected to start within four months or sooner.



The plant of the Vitreous China Co., at Alliance, Ohio, which manufactures a line of bathroom specialties, is reported to have been recently taken over by the George H. Bowman Co., a large jobbing house at Cleveland, Ohio. The latter concern several years ago purchased the plant and business of the Summit China Co., at Akron, Ohio, and has been operating the property successfully since.



After seven months idleness the plant of the Clarksburg (W. Va.) Sanitary Pottery Co. has resumed operations on a limited scale. Ten pressers have started to work. Resumption at this plant is an indication that building activity is increasing and the demand for sanitary pottery becoming more general.



According to the "Syracuse China Bulletin," published by the employes of the Onondaga Pottery Co., Syracuse, N. Y., Syracuse china is used exclusively in the six beautifully appointed restaurants of the new Hotel Pennsylvania in New York City, as well as at the other hostleries operated by the Hotel Statler Co.



New general offices are being built at the plant of the D. E. McNicol Pottery Co., at East Liverpool, Ohio. This firm is also operating to capacity its new plant at Clarksburg, W. Va. In addition to dinnerware this firm is making a line of specialties at both potteries.



The Department of the Interior at Washington, D. C., has asked pottery manufacturers for any suggestion whereby help could be extended the manufacturers from any branch of this department of the Government. This refers to either manufacturing or marketing.



The strike of about fifty pottery workers at the plant of the National China Co., at Salineville, Ohio, has been settled and operations are continuing along usual lines. The firm discharged an employe and a strike resulted.



Striking dippers and kilnmen at the pottery plants at Sebring, Ohio, have returned to work. This was another ill-advised strike, and the workers were ordered by their national officials to return to work. They did so.



Drain tile will be made by S. A. Tuten at Bonnerton, N. C., who plans to install machinery to manufacture this product in a limited way at an early date. He is now receiving quotations on such equipment.



The Advance China Co., is the name of a new concern that has started operations at Chicago Heights, Ill. A line of hotel ware will be made.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Point Up Your Kiln Wall Masonry

It is an easy matter for us to overlook some of the things with which we come into daily contact. For instance, altho we may travel the same lane to and from work for years yet many of us would find it difficult to describe a certain house or other object which we have seen daily. This same case applies to the condition of equipment on a factory. Because, in general, the depreciation of material takes place gradually, our eyes become accustomed to the new condition of the object as we see it day by day, and for that reason we are apt to overlook the real state of decay it is in, for we remember that it served its purpose the day before and look for the same kind of performance today. In other words, the wear and tear which in a short space of time does not amount to very much is entirely overlooked in a longer period. Especially is this true with that equipment with which we come into frequent contact.

A good example of this fact is the case of a kiln wall. It would surprise a great many superintendents to actually know the poor condition of the walls of their kilns. The constant heating up and cooling of kiln walls, together with the action of weather deteriorates the masonry to a large degree, with the result that leakage in the wall is not uncommon. Immense quantities of air enter a hot kiln in this manner and slow up a burn. Poor draft and sections of underburned ware may frequently be traced directly to this source.

The ordinary man does not realize the importance of pointing up his kiln walls until he has had opportunity to see just how important this is. On one plant where a forced draft burning system was installed it was noticed that at times the smoke and gases would come pouring out of the walls, showing that the masonry was not tight. The extent of this escaping of heat and gases from the kiln was a revelation to the superintendent who never before realized the importance of a tight kiln wall. However, this point is quickly impressed upon one when forced draft is applied to a kiln. Where ordinary burning is employed this fact is not so obvious, for the reason that the flow of gases is reversed and it is cold air entering the kiln thru the leaks and cracks rather than hot gases coming out, as in the case of forced draft, and consequently the effect is not so noticeable. Nevertheless, the fact remains true that a kiln wall should be made as tight as possible, and at different intervals a man should be charged with the duty of pointing them up.

* * *

Method of Installing Pyrometer Tubes

The accompanying photograph is a very good one of an interior view of a down-draft kiln on the Macomb (Ill.) Sewer Pipe Co.'s plant. It shows some interesting features on kiln construction, such as is employed on the above plant.

Of chief interest in this picture is the method of inserting the pyrometer tubes into the kiln. It will be noted that two pyrometer couples are used, one about eight inches from the floor and between two fire bag walls and the other about six

inches below the point in the kiln wall where the crown begins to rise. A very unusual type of construction of kiln wall is used as a sort of housing for the pyrometer tubes. By inserting the tubes in such a box-like arrangement they are very well protected against being broken thru something bumping against them. The wall of the kiln is made somewhat thinner at the point where the fire clay tube is placed.

The pyrometer tube does not lie directly in the path of the flames or draft in this system which is an advantage, because more regular temperature of the kiln will be record-



Position of Pyrometer Tubes in Sewer Pipe Kiln.

ed. In other words, the pyrometer will not be susceptible to the fluctuations that are caused by the difference in the draft in the kilns or due to the flames that reach out of the fire box.

* * *

Drainage Bulletins Out

Three new bulletins relating to drainage or drainage subjects have recently been published by the engineering experiment station of Iowa State College, at Ames. W. J. Slick, who is drainage engineer of this station, was the author.

The first, No. 50, deals with underdrainage. It is entitled, "Theory of Underdrainage."

"Practical Drainage," No. 51, is the subject of the second one, while the third, which deals with agricultural drainage, is entitled, "Underdrainage and Its Relation to Crops." This last bulletin is No. 52.

All of these bulletins are in print and are available at the engineering experiment station at Ames, Iowa.

IN *the* WAKE *of the* NEWS

Being a Brief Mention of a Host of Interesting Happenings in the Varied Fields of the Clayworking Industry

Personal

L. D. Binyon, of the S. S. Kimball Brick Co., Chicago, was a business visitor in Columbus about the middle of April.

W. J. Goodwin, president of the Goodwin Tile & Brick Co., Des Moines, Ia., is in the East, looking over the clay plants of that section.

John Shaffer, of the Derr-Shaffer Co., of Akron, Ohio, was a recent business visitor in Columbus, calling on producers and jobbers.

J. R. Marker, secretary and commissioner of the Ohio Paving Brick Manufacturers' Association, was called to Canton on business recently.

James T. Howington, head of the Coral Ridge (Ky.) Clay Products Co., is spending a few days in the South, where he is calling on some of the jobbers and handlers of brick.

Word has been received that D. D. Evans, general manager of the West Virginia Paving & Pressed Brick Co., Huntington, W. Va., was married on March 26 to Miss Elizabeth Dudley, of Parkersburg. The wedding occurred at Ironton, Ohio. The couple will make their home in Huntington.

H. S. Maddock, of the Thomas Maddock's Sons Co., Trenton, N. J., was absent from his office during the last two weeks in March on account of illness, due to the formation of an abscess on the inner ear. He has now returned to his desk.

Wm. H. Filley, aged 75 years, died at his home in Windsor, Conn., on April 8. Mr. Filley as a young man was associated with his father in the manufacture of brick, and the house in which he spent the greater part of his life was built with brick manufactured in his own yards.

H. S. Vincent, of the Vincent Clay Products Co., Ft. Dodge, Iowa, has been in the east to meet his brother who recently returned from service in France. Mr. Vincent enlisted in a medical unit from Harvard University at the opening of the war and has seen service from the start to the finish.

S. W. Smith, of the United Materials Co., San Francisco, Cal., is leaving shortly for the southern part of the state, where he will spend several weeks on a combined business and pleasure trip. While in Los Angeles he will visit the Alberhill plant of the Los Angeles Pressed Brick Co. J. A. Gerlach, superintendent of the Richmond Pressed Brick Works, will accompany Mr. Smith on part of his tour.

W. H. McConnoughy, formerly with the Barkwill-Farr Co. and more recently in other branches of the building material industry during the period of the war, has been appointed manager of the new east side territory recently established by the Barkwill-Farr Co. in Cleveland. Mr. McConnoughy will have charge of the service and distribution of material in that section east of East Boulevard and north of Euclid Avenue as far as the district goes.

Thomas F. Mann, a pioneer brick manufacturer of Texas, died at his home near Waco on April 6. He was 76 years old and for many years had been prominent in the industrial

and financial affairs of Waco. In 1870, shortly after his arrival in this city he established a brick-making plant, which was the first of its kind in this part of the state. Many of the buildings of that day which are still standing were built of brick that came from his kilns. He expanded his business and became very wealthy. At the time of his death he was a stockholder in many banks of this city and section and was interested in various other business establishments. His home was in the country, two miles from town, where of late years he has lived a semi-retired life.

California

The firm of O'Brien-Kiernan Co., of San Francisco, Cal., is to erect a one-story brick bakery building at the corner of Dore and Harrison streets, at a cost of \$12,000.

Architect O. E. Evans, of San Francisco, Cal., is working on plans for a seven-story brick apartment house, containing 40 apartments, to be erected on Taylor near Sutter street at a cost of \$110,000.

The Craycroft Brick Co., of Fresno, Cal., recently sold to the county of Fresno part of its property in Fresno for a burial grounds for the indigents of the county. The amount received for the lot was \$2,260.

A brick apartment house of four stories and basement is to be erected on Post street, between Leavenworth and Hyde streets, San Francisco, Cal., at a cost of \$75,000 for L. D. Stoff.

The firm of Currie & Dugar, of Bakersfield, Cal., has been awarded the contract for the new Maxwell Garage, which is to be erected at 23rd and I streets, Bakersfield. The construction is to be of brick and concrete with a tiled floor and Batchelder tile wall panels. The expenditure on the building will be about \$30,000.

With the gradually increasing building activity of the past month or so, the clay products manufacturers and dealers are slowly but steadily gaining a volume of business that should result in normal conditions in California before long. Work is piling up in the contractors' offices, while the architects are all busy with plans, many of which will be carried out within the next few months, irrespective of further reduction in material costs.

Without exception, the March building permits in all sections of the Pacific slope showed a decided increase over the previous month, in several cases the permits being double the value given in the February records. In Sacramento, Cal., for instance, the number of permits for March of 1919 totaled 103, against 64 of last year. Alden Anderson, of that city, recently returned from the conference of Governors at Washington, D. C., and he thinks that a mistake is being made by those who are holding off new construction in hopes of less expenditure. "The time to build is right now," Mr. Anderson said in a recent interview. "There will be no sudden drop in the cost of materials, nor will wages come down for some time. The readjustment will be very gradual. I note with gratification that this feeling seems to be permeating the general public, as indicated by the greatly in-

creased number of building permits over the same period of last year. This is as it should be. If we are to have a readjustment that will not disturb the commercial equilibrium, we must help the situation along by going ahead. It will not do for anybody to stand still and wait. There is plenty of money in the country for needed construction. . . . The quicker we all realize that only activity can help readjustment along safe and sound lines, the better it will be for us."

S. W. Straus, head of S. W. Straus & Co., a stock broking firm of New York and San Francisco, which has been closely allied with the realty and building interests on the coast, is of the opinion that building should not be held up any longer. He said: "Reports from all parts of the country indicate that building conditions are at least one year behind normal demand. That these estimates are conservative may be judged from the fact that total building work in the United States in 1916 was \$980,000,000, and in 1917, \$700,000,000, while various canvasses of the situation indicate a present building deficit far in excess of \$1,000,000,000. With this strong pressure behind the market and the accepted cut in steel prices for the balance of the year, stabilized conditions are being manifested everywhere in the country. . . . Current reports indicate that pending building projects thruout the country have reached more than \$5,000,000,000, which amount will be greatly increased within the next few weeks under the stabilized conditions that now are being rapidly brought about." In a general summing up of the situation, Mr. Straus stated: "General conditions, therefore, indicate that nothing is to be gained by holding off for lower prices now, and that the unusual building activities, which must continue over a period of many years before normal requirements are met, has definitely begun." While the clay products interests fully realize the conditions which Mr. Straus outlined, they have come to the conclusion that it is up to them and other building materials trades to bring the situation home to the building public, making the owners understand that to wait for the further decline in construction costs would mean a delay that would result in no good to anyone concerned.

Colorado

A three-year lease, with privilege of extending it to five, has been granted to Grant Parfet, of Golden, Col., by the town council of Castle Rock, Cal., on five acres of clay ground belonging to the town. According to the lease, the town is to receive a royalty of ten cents a ton on all clay shipped and a minimum of \$300 a year. The Castle Rock Brick & Tile Co. has been shipping clay to Denver for brick-making, but will soon reopen its brickyards at Castle Rock and resume operations.

Connecticut

Owing to unfavorable weather conditions, brick manufacturers of Connecticut have been delayed somewhat in the starting of their season's work. At the present time the Donnelly Brick Co., New Britain, is the only plant in operation. The Murray Brick Co. is finishing up its repairs and expects to have its machinery running shortly. The John Connley Brick Co., of Beckley, has completed all preparations for the season's work and as soon as the necessary help can be secured, the plant will be put into operation.

Florida

Recent advice from H. K. Brundyge, of the Tallahassee Pressed Brick Co., Havana, Fla., is to the effect that the high wages and excessive freight rates are ruining business

for them. He says that with the railroad paying \$2.80 a day for section hands it is next to impossible to keep a crew on his plant. Mr. Brundyge states that he has been in the brick business for twenty-five years and conditions are now the most unfavorable he has ever seen them. He says his plant hasn't made a dollar since the war started and until the railroads are turned back to their owners and freight rates are brought back to normal, there is no money to be made.

Idaho

The plant of the old Idaho Brick Co., East Lewiston, Idaho, has been purchased by Joseph Terteling, of Potlatch, who will start operations in April. About 15 men will be employed and a season's run of a million brick is contemplated. Both common and face brick will be manufactured.

The W. A. McGee & Sons brick plant at Caldwell, Idaho, is furnishing the brick used in the construction of the new high school building in that city, as well as the brick for the Parma, Wilder, Huston and the Scism school buildings. The plant now has a capacity of 19,000 brick per day, and is making a specialty of brick fireplaces and interior furnishings.

Illinois

The Western Brick Co., Danville, Ill., claims the honor of having received the first order ever to be delivered by airplane to any manufacturers in or near the city of Danville. This event occurred on April 1, when the company received an order from an Indianapolis contractor for a carload of building brick. The order came by airplane from Indianapolis.

Building work, practically suspended during the war, is gradually getting under way in Illinois, and the Department of Labor, which has just completed a study of the Illinois situation, says it will not be surprising if 1919 proves an exceptional year for the state. On the basis of a survey of the entire country, Illinois leads in the estimated cost of contemplated building and public works. The 365 projects which were made the basis of the survey involve \$175,045,000. Of these 208 are public and 157 private projects. In private construction business buildings hold the lead, with 51, to cost \$68,010,000. Dwellings come next, to cost \$2,750,000. Manufacturing plants number 21 of an aggregate value of \$2,130,000. Only 12 apartment houses figure in the returns, for \$460,000. The reports include 13 religious structures to cost \$1,360,000.

Indiana

Roscoe E. Baughn has succeeded C. W. Baughn at the tile plant in Lyons, Ind. He reports business conditions as good, stating that they are going to try to develop a greater demand for their product in the home market.

Petitions have been filed with the county commissioners at Bluffton, Ind., for forty-five miles of paved roadways under the new county unit law. One petition asks for five miles of crushed stone road and the other five petitions ask for a total of forty miles of brick-paved roads.

The Hoosier Brick & Coal Co. is the name of a new Indianapolis firm which has incorporated under the laws of Indiana to engage in the sale of brick and fuel. The capital stock is given as \$9,000 and the incorporators are Louis N. Joseph, Fred B. Adams and Sherman H. Tomkins.

The first petition in Jackson County for the construction of a highway under the provisions of the county unit road law was filed recently at Seymour, Ind., and asks for five miles of brick road between Medora and Sparksville. The petition requests that the roadway be sixteen feet wide.

It is reported that M. H. Johnson, Sr., one of the owners



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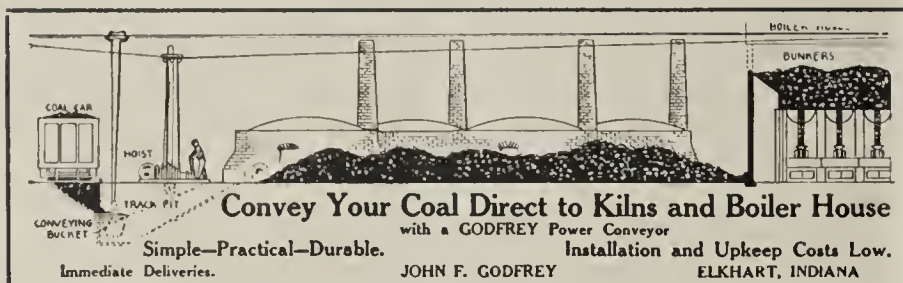
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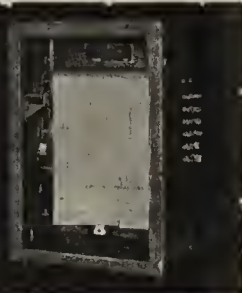
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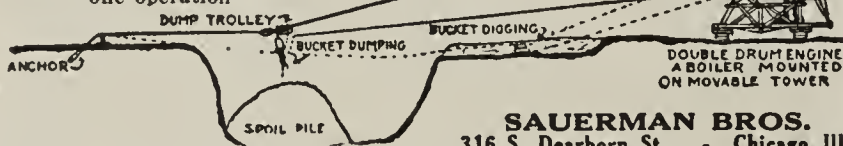
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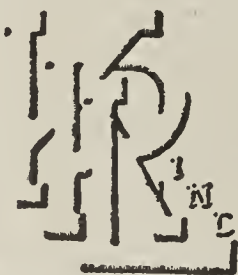


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Correspondence solicited

of the Terre Haute Vitrified Brick Co., at West Terre Haute, Ind., has purchased the Indiana Paving Brick & Block plant, at Brazil, Ind., from Walker W. Winslow, who has been located at Indianapolis for several months. The plant has been closed for some time.

Contracts will be awarded on May 5 for the construction of four roads in Marion County, Ind., according to a recent announcement by the county commissioners at Indianapolis. The roads are two sections of Twenty-first Street, about three and one-half miles, to be built of brick; the Emerson Avenue road from Michigan Street to Tenth Street, also brick, and a road in Center township about one-half mile in length, of crushed stone.

One hundred and five building permits, valued at \$358,295, were issued at Gary, Ind., during the month of March, completing the greatest volume of construction business done in that month since March, 1910. Of the number of new buildings erected during the month, eight were of brick veneer, fourteen of brick and about sixty-two of frame construction. The sixty-two frame buildings cost \$139,470 and the brick buildings cost \$112,525.

Action of the federal railroad administration in reducing freight rates on road building materials consigned to public units, is expected to stimulate road building thruout the Hoosier state, which, to date, has been held up because of the high prices of materials and shipping rates. The city of Indianapolis will save about \$3,000 annually by the reduction on freight rates on road and street materials, according to Dwight S. Ritter, city purchasing agent.

Iowa

Southeastern Iowa clay producers held their sectional meeting at Washington, April 2. On account of the weather conditions the attendance was small but a general feeling of optimism was evidenced by those in attendance.

D. L. Diehl, F. B. Cobb, and P. M. Hoffman have purchased the Tipton (Iowa) Brick & Tile Works from Mrs. E. Wilson, who has operated the plant since her husband's death some time ago, the purchase price being \$16,000. The new owners took possession April 1, and expect to make a number of needed improvements during the summer. Mr. Cobb will have charge of the factory as manager.

The Mt. Pleasant (Iowa) Brick & Tile Manufacturing Co. reports business conditions as just a little below normal. At the present time the company is making repairs on the plant, preparatory to improving the quality of its silo tile. They are cooperating with the Permanent Buildings Society, with offices at Des Moines, Iowa, in the campaign to increase the market for silo tile and are trying to develop a greater demand for silo tile in the home market.

Practically every clay plant in Iowa is now operating, this being the first time in eighteen months that such a condition has prevailed. There is a healthy demand for clay products and the men behind the plants are feeling optimistic over the outlook. In some plants, particularly those located in the smaller towns of the state, some difficulty is being experienced in supplying labor to meet the demand. There is a plentiful supply of labor in the cities but the men are showing a disposition not to leave the cities.

Kentucky

The coal market is reported as a little stiffer, but Kentucky brick manufacturers are able to secure all the good mine run they desire at prices ranging from \$2.10 to \$2.40 per ton at mine for good Eastern Kentucky grades.

Business conditions in Nicholasville, Ky., are good at the present time and the prospects look bright for more business in the near future, according to A. H. Schneider, who is experiencing some little trouble just now in getting help. The Schneider plant will start up again about May 1.

The Coral Ridge Clay Products Co., Louisville, Ky., is running part time at its plant, not being kept busy by any means, but making up a few kilns of brick as the demand requires. The company is not making any hollow tile just now, as a fair stock is on hand.

A. P. McDonald, sales manager of the P. Bannon Pipe Co., Louisville, Ky., has been out on the road a considerable part of the past month. He has secured a lot of excellent business from the country retailers, and brings in good reports of conditions and prospects.

The Louisville (Ky.) Fire Brick Works reports that new business is coming in very slowly, and that it is about cleaned up on a good many of its old orders. Both plants are still operating full time and capacity, but there is a reduction in sight unless shipping interests, steel mills, and other consumers of fire brick start buying on a better scale.

The P. Bannon Pipe Co., of Louisville, Ky., is running full time and capacity at both plants, and is disposing of about fifty per cent. of its output, the balance going into stock which has been low for some time past. The company reports a good local business, and a steady demand from out in the state, and is generally optimistic concerning the outlook.

Fair progress has been made at the plant of the Progress Pressed Brick Co., Louisville, Ky., which succeeded the Hillenbrand Brick Manufacturing Co. The Hillenbrand boys have gotten the plant in good shape, and are now making common and face brick. For a time it looked as tho the Government would take over the property upon which the plant is located as an addition to Camp Taylor, but that danger is past, as Camp Taylor needs no further enlarging.

During the past month the actual consumption of clay products and building materials in the rural districts of Kentucky has fallen off somewhat as farmers are busy in the fields and are not building to any extent. However, the country dealers are buying stocks ahead, feeling that there will be a good demand when crops are planted, and when the farmers have an opportunity to get back to building. Farmers do a large volume of their own work with their own men, and labor is generally scarce in the rural districts at this time.

Maine

Horace Purinton, of Waterville, Me., head of the Horace Purinton Co., which operates five brick yards in that state, has just completed 44 years of active business life, most of which has been spent in the brick business. Mr. Purinton first engaged in brick making at Winslow, Me., with J. P. Norton in 1875. Two years later a second plant was put in operation, and from that time on his business has steadily grown. Today the company bearing his name has two yards at Waterville and one each at Augusta, Skowhegan, and Mechanics Falls. The combined capacity of the five plants is 10,000,000 common brick a year.

Massachusetts

The brick business in Boston, Mass., has not yet assumed seasonable proportions, but is very gradually improving. The price for brick delivered on the job is at present \$18.

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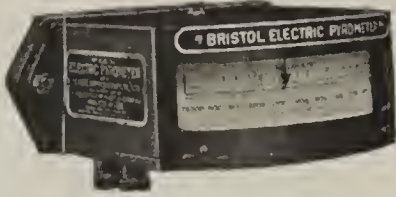
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Massachusetts brick manufacturers met at Springfield early this month and discussed the government suggestions as to the stabilizing of prices. The general sentiment, it was stated, was that any lowering of prices substantial enough to act as a stimulant to building activities would deprive the manufacturer of a proper profit. In order to reduce brick prices cheaper fuel and labor is necessary, manufacturers said.

The insistence that state and city governments do their part in providing work for the returning soldiers has resulted in plans being made for a large amount of road work during the spring and summer in Massachusetts. The state highway commission plans to complete several important stretches of state highway and already is receiving proposals for the work, and there is much city and town work soon to be started. There also probably will be more sewer construction work this year than for several years past for the same reason.

The campaign for building resumption is having some effect on the brick market in Massachusetts, altho dealers do not by any means characterize trade as brisk as yet. Several large office buildings planned for Boston and a number of schoolhouses and other public buildings upon which work is expected to start soon in various sections of the state, will, however, soon provide an outlet for a considerable quantity of brick. Many yards already have started up, altho some in only a small way, and others are expected to resume soon.

Michigan

The Ashley (Mich.) Tile Co. is putting its plant in shape to make larger tile as the county agents, they state, are going to put in large tile in the open ditches along the highways and close up lots of these ditches.

Mercier, Bryan, Larkins Brick Co., Detroit, Mich., report business conditions to be good in that city. The Detroit brick manufacturers have done considerable advertising of the "Build Now" movement and there has been a marked improvement in the brick market. The brick manufacturers of Detroit are doing all within their power to get back to normal capacity.

Minnesota

The West Concord (Minn.) Tile Co. has recently been reorganized, changing its title to the West Concord Clay Products Co. Vac F. Kreycik is president and general manager; T. C. Hemeghen, secretary and treasurer, and Chas. F. Hedin, Frank Hoffman and Omar Grevell are directors of the concern. Its capital stock is \$100,000, and \$15,000 worth of stock has been put on the market in order to enable the company to make contemplated improvements to the plant. Mr. Kreycik states that prospects for future business are very good. During the past few months the company has built four 30-ft. down-draft kilns and a 70-ft. smokestack and installed eight dryers. Former Superintendent A. Yegge is still in France with the 46th Co., 20th Engineers, A. E. F.

Missouri

The plant of the Mound City Roofing Tile Co., St. Louis, Mo., has been closed down for six weeks while some necessary repairs on kilns and machinery were being made. Everything now is in good shape, according to A. Gallandt, superintendent, in readiness for the opening up of business.

Marshall, Mo., is taking the lead among small communities

of the state in booming business. Work on a \$130,000 city lighting plant will begin this month. Work has been begun on the new Fitzgibbons City Hospital, which will cost \$75,000 and plans have been completed for remodeling the Mings Hotel building into store rooms and a moving picture show.

George A. Bass, president of the Hydraulic-Press Brick Co., St. Louis, Mo., has returned from a two weeks' business trip in the East. He declared on his return that conditions are far more encouraging than a month ago and that there is a tendency toward a resumption of confidence in the market.

Henry D. Grady, treasurer of the St. Louis (Mo.) Terra Cotta Co., reports an increase in sales and a greater volume of business in sight. He said that several construction deals of great importance are likely to be announced within the next month. That material would be reduced to any further extent is unfounded, according to Mr. Grady, who believed that the builder and buyer is beginning to realize that he is wasting time by waiting for a lower market.

Local prospects for more business for St. Louis manufacturers are increased by the condemnation of several blocks of property as the first step toward widening a viaduct approach at Twelfth street and Chouteau avenue, in a general plan to make that street the cross-town thorofare of the city. The street, which is 60 feet wide, will be widened 20 feet. Plans are already under way for the reconstruction of Twelfth street north of Florissant avenue.

Harry C. Kennedy, representative of the Interstate Clay Products Co., St. Louis, Mo., in regard to the prospects for a business boom here, said that the amount and class of ground being sold points to the erection of many large homes. These sales, he said, are being made in exclusive and restricted residential districts where nothing but the finest type of dwellings are built. Mr. Kennedy declared that, despite comparative inactivity in building recently, more and bigger contracts are being figured than for several months.

W. W. Coates Co., of Kansas City, Mo., has taken over the output of the Fayette (Mo.) Brick & Tile Co., which will manufacture building and silo tile. Four additional chambers have been added to the semi-continuous kiln on this plant, and if it pans out satisfactorily several more chambers will be added to make it a continuous kiln. According to J. F. Gautner, manager of the Fayette Brick & Tile Co., a group of men have organized to push the erection of silos in seventeen counties in the northeastern part of Missouri. They expect to distribute literature from airplanes.

A boost for building in St. Louis, Mo., is shown by the monthly report of William McC. Martin, federal reserve agent for the Eighth Federal Reserve District, of which St. Louis is the center. He says, in part: "Reports from St. Louis, Louisville and Memphis indicate some improvement in building operations in comparison with last year. However, due to the high cost of materials and labor, the building industry is still comparatively below normal." The increase for the month, according to the report, is 414 permits, compared to 304 for 1918, at a cost of \$361,304 compared to \$310,612 for 1918, in St. Louis alone.

The erection of the \$4,138,000 plant of the General Motors Co., Natural Bridge road and Union avenue, St. Louis, Mo., will relieve the unsettled conditions both in building and employment, in the opinion of local manufacturers. Nearly 6,000 will be employed by the Detroit company when the whole plant is completed, and about 1,000 artisans of all classes will be at work on the plant when the construction is



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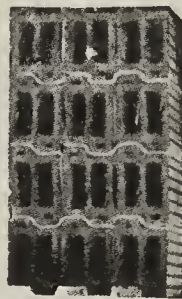
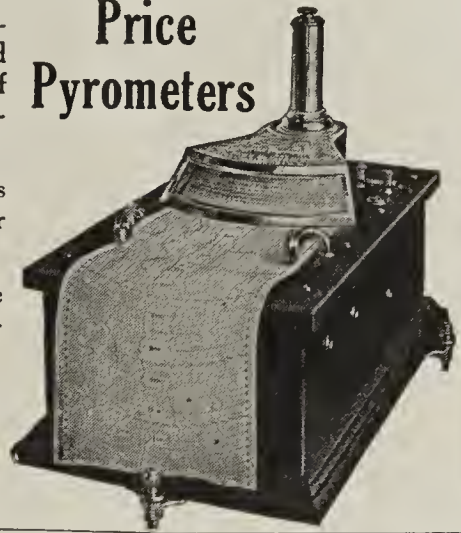
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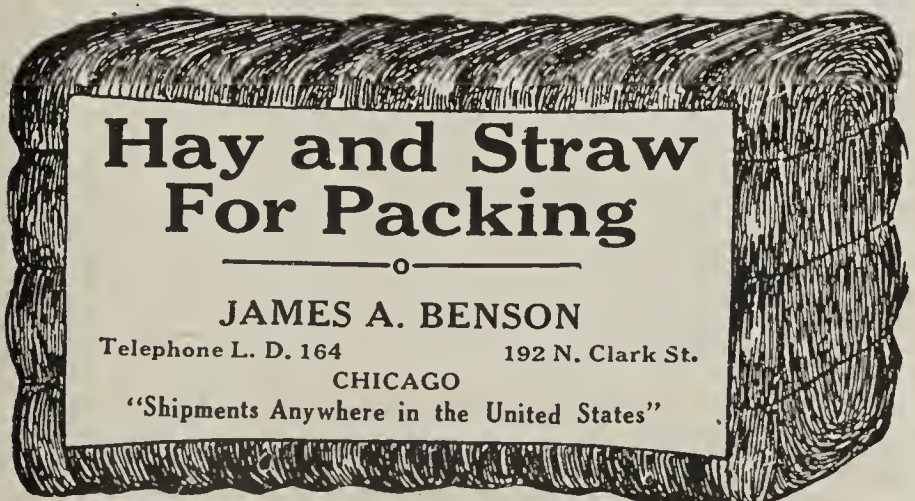
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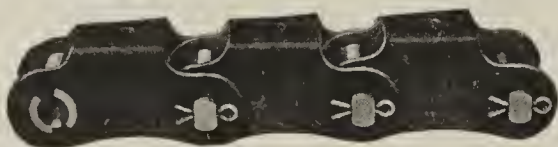
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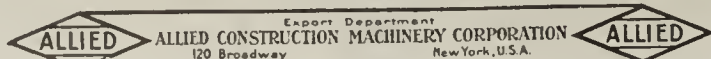
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well under way. The first of the main buildings will be erected this summer at a cost of more than \$1,000,000, and on its completion work will begin on the others, until the whole 105-acre tract will be occupied. It is rumored that several local manufacturers are expecting to get a slice of the big work.

Ten barges of the United States Navy have arrived in St. Louis and have been added to the fleet which has been operating for several months between this city and points on the Mississippi River as far south as the gulf. Clay products manufacturers have gradually begun to make use of water transportation, the Laclede-Christy Clay Products Co. having recently made a large shipment of brick to the southern continent by this route. It is expected that the barge line will get more construction supply cargoes, due to the efforts of Carl F. Dieckmann, United States Consul to Santos, Brazil, who has been interesting St. Louis manufacturers in South American business.

Charles A. Doolittle, vice-president and treasurer of the Blackmer & Post Pipe Co., St. Louis, Mo., believes that impetus will be given the gradual increase in business by much municipal and state work, following elections in Missouri and Illinois. Mr. Doolittle said that St. Louis manufacturers probably will benefit by the extensive road building program laid out by the Illinois Board of Public Service, as well as from new building, and improvements already decided on for St. Louis. Shipments to St. Louis have been good, Mr. Doolittle said, but shipping at present is light. Within the next two weeks several projects will be open that will interest manufacturers of building construction supplies, he declared.

Construction supply manufacturers in Missouri have suffered a set back by the passage of the Earth Road Bill by the lower house of the assembly. The bill has been opposed by them as well as by the supporters of the Hawes law, which is partially repealed by the new bill, and by the St. Louis Automobile Club, which had threatened to fight the state license law if the dirt road measure becomes a law. If the bill had been defeated it was planned to cover the state with hard surface roads, which would have meant much business for the supply men. As the matter stands, however, the bill is sure of enactment. It was almost unanimously passed by the Senate several weeks ago, and Governor Gardner had announced that he would sign the bill on certain conditions, which were written in before the measure was passed.

Following the announcement two weeks ago of an average reduction of 15 per cent. on brick by the Hydraulic-Press Brick Co., of St. Louis, Mo., the Laclede-Christy Clay Products Co. are preparing to reduce all brick 25 per cent. on an average. While the decrease could not be learned in detail, it was said that it would approximate a cut of from \$35 per thousand to \$30 on low grade brick; \$50 to \$40 on high grade, and \$40 to \$35 on medium. Business with dealers is on the increase, according to officials of this company, and, while contract work is comparatively smaller, several big opportunities are in sight. Further reductions are not likely, it was stated. The cut was attributed directly to the recent reduction in steel, which is regarded as the barometer of the building market at present.

Brick and other clay products manufacturers of St. Louis, Mo., are taking an active part in the "Build Now" campaign, inaugurated several weeks ago by all concerns

interested in stimulating building on a larger scale. The Evans & Howard Fire Brick Co., Laclede-Christy Clay Products Co., Hydraulic-Press Brick Co., Progress Pressed Brick Co., and many other firms have posted signs on their wagons and motor trucks as part of the general scheme of propaganda. Encouraging results have been noticed in the issuing of permits to build several large apartment-hotels, but builders are not satisfied and intend redoubling their efforts. Dissatisfaction has been expressed by many who urge closer coöperation with a central advertising and publicity office instead of different campaigns by the respective interests.

Montana

W. E. Dowlin, of the W. E. Dowlin Brick Co. Inc., Billings, Mont., says that business conditions are good in the state and he is planning to increase the market for his products. Mr. Dowlin lost most of the men on his plant in the draft and so has experienced considerable trouble in getting necessary help.

Nebraska

It is rumored that Fred Beagle, a well known rancher residing northwest of Ordway, Nebr., will establish a large brick making plant at Ordway. Mr. Beagle is a brick mason of many years' experience, and states that the facilities for brick making in this section are unexcelled. It is expected that a plant employing from 25 to 50 men will be opened in the near future.

New Jersey

The Aistin Clay Works has been incorporated at Augusta, N. J., to manufacture and deal in brick, tile, clay and other building materials. Its capital stock is \$200,000.

The Bloomfield Clay Co., Metuchen, N. J., is building a new and up-to-date office of hollow tile and is now hiring more men, preparatory for the increase in business which is bound to come soon, altho business at the present time is very quiet in that neighborhood.

On account of conditions in the building field, the C. Pardee Works, Perth Amboy, N. J., is devoting production in the ceramic department of its plants to floor tile. Heretofore the plant has manufactured glazed wall tile as well, and when conditions open up, it is understood that this production will be resumed.

Brick manufacturing plants at Hackensack and Trenton, N. J., two of the most important producing centers of the state, have inaugurated activities for the season's run, and while the attitude is not one of entire optimism, yet the intent and firm belief in the future is there. The majority of the different yards are planning to produce at capacity for the next few months to come, with entire hopefulness that the output will find a ready demand for the numerous building projects now "in the wind." Brick at Hackensack yards is now selling for \$15 per thousand.

Things continue to be comparatively quiet in the Raritan River section. The different clay mining plants are operating in a fair way, but the call for well-known plastic clays of this district is not as wide or firm as might be desired. Labor difficulties have diminished to a considerable degree, but there is room for improvement in this quarter. At the same time, labor, such as it is, is quite abundant at Perth Amboy and vicinity. In fact, it is currently said that 50 per cent. of the men, including soldiers returned from the front, are open for positions.

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At Hackensack, N. J., I. E. Gardner has commenced production at his plant on Hudson street, inaugurating operations on April 8. It is planned to develop a capacity of about 25,000 brick per day for some time to come. The date noted is a favorite one with Mr. Gardner, and is usually the exact time when the wheels begin to turn. The brick from this yard is a quality product, and was much in demand by the Government during the year past for work at Camp Merritt, Tenafly, N. J., and at other points. With labor conditions showing up favorably, the company does not anticipate any trouble in this connection, and, in truth, labor difficulties are hardly to be mentioned in connection with this plant, as Mr. Gardner has individual plans and methods which always go to satisfy the men.

Building conditions in New Jersey seem to be shaping themselves in a sure, encouraging way, and increased activity is being evidenced in many quarters. With the spring season here, developments in actual construction are distinctly promising. At Newark, Trenton, Camden, in the Passaic and Paterson districts, and at Jersey City, considerable more building work is in sight than for months past, and things look good for consistent increase as the weeks progress. Among the cities in different parts of the state showing an advance in construction, taking figures for the month of March, just passed, and comparing with the corresponding month the previous year, in the order noted as follows, are. Atlantic City, \$101,700 and \$63,800; Paterson, \$264,127 and \$90,625, a gain of about 190 per cent.; Bayonne, \$53,450 and \$28,450; Passaic, \$36,000 and \$18,000, and Hoboken, \$45,600 and \$43,100.

Prices of building materials of all kinds, with but few exceptions, continue to hold at present levels in New Jersey, and while there is a "bearish" movement in sentiment, it is not having any great effect on burned clay specialties, and it is only in the case of hollow tile and sewer pipe in a few sections where a slight decline is recorded. The price of good hard common brick fluctuates a little in different parts of the state: delivered on the job this material is selling for \$19.50 per thousand in Newark, \$22 per thousand at Atlantic City, \$17 at Paterson and vicinity, and \$22 per thousand at Morristown. At Trenton, a point of manufacture, an advance has been evidenced in this commodity, and instead of a previous quotation of \$14, the price now ranges at \$17 and \$18, delivered on the job. Fire brick continues to sell at around \$68 per thousand at Newark, delivered on the site, and the same at Trenton, while at Paterson, the prevailing quotation is around \$80.

Newark (N. J.) commences to show up in a fair way as regards building, and the outlook is promising. While the total amount of construction work for the first quarter of the year shows a decline in estimated valuation over the same period of a year ago, there is a big jump in housing work, and buildings of this nature are holding the center of attraction. A popular type is three-family brick dwellings, which during the war period dropped completely from the construction field. During the first three months of the year applications for building permits aggregated 325, with estimated valuation of \$964,405. Of these, 116 permits were for brick and other fireproof buildings, with cost estimated at \$576,389; permits were issued for 26 dwellings, with cost aggregating \$312,400. Factory construction dropped to a rather low point in this period, but with the opening of the spring season, a good number of structures of this type are now being laid out by architects and engineers, and estimates of cost made.

The Trent Brick Co., Trenton, N. J., is now engaged on a run of about 200,000 brick, and plans to maintain active production thruout the season. The company inaugurated operations early in April, starting its first kiln on the second of the month. The steam drying system installed at the plant is now being used, and within a few weeks it is planned to revert to outdoor drying. Fine use is being made of the endless conveyor system which A. W. Goulding, secretary of the company, had installed during the past winter. This system operates from the mixing department direct to the kilns, and provides for considerable decrease in the number of necessary employes. The pallets, each carrying 6 green brick, are placed on the conveyor at one end and removed on the other by a single man, with an employe located at each corner, of which there are two, to guide the pallet as it makes the turn. About four men are employed in loading the kiln. The local plant is now giving employment to about 25 men, as against a considerably increased number in former seasons.

Henry Gardner is now actively engaged in producing brick at his plant at Little Ferry, near Hackensack, N. J. In his ambition to inaugurate production, Mr. Gardner started up around the first of April, and had the misfortune to have a run of about 85,000 brick hurt by frost. These will be made over and sold as seconds. The yard is now operating under a capacity of about 44,000 brick per day, and it is planned to maintain production at this status for some time to come, in order to have a good supply on hand. In discussing present conditions he sets forth that it is difficult to obtain labor of sufficient intelligence to handle the different conditions that arise in the manufacture of high-grade common brick, and for this reason, it is necessary to be "on the job" at all times, in order that everything may be watched and operations move at the right pace and under right circumstances. Mr. Gardner is an active and progressive man, and makes the remark that certain established features of brick manufacture, as usually found, seem to him quite primitive and open for considerable improvement. It is his plan to try a number of changes and experiments during the present season, to develop means for more certain and reliable production.

The slack in building work has affected the Perth Amboy (N. J.) Tile Works, manufacturer of floor tile and ceramic wares, to a considerable degree, and the plant is now operating at a much reduced capacity, employing about 25 persons, instead of a regular complement of about 75, as under normal conditions. At the same time August Staudt, the president of the company, is decidedly optimistic, and believes that the future holds promise for an early revival in building activities, and upon which the company is dependent for a resumption of near-normal production. Only the highest grade of floor tile is manufactured at the plant, this being produced in twelve different colors and of various shapes, including hexagonal, round, square, and rectangular, the latter going to make up what is known as the herring-bone tile. The plant is provided with three kilns, two of which are being used at the present time. Prior to the active participation of this country in the war, a tunnel kiln was installed at the plant, but this has really never been used. As soon as things in the building trades are in better shape, it is planned to use this latter equipment in connection with the regular plant production. The normal capacity of the plant is about 1,000,000 square feet of tile per year.

To encourage the use of burned clay building materials, including hollow tile, terra cotta, etc., the Perth Amboy

The "A" ERIE weighs 13 tons, and operates a dipper of ½ cu. yd. capacity.

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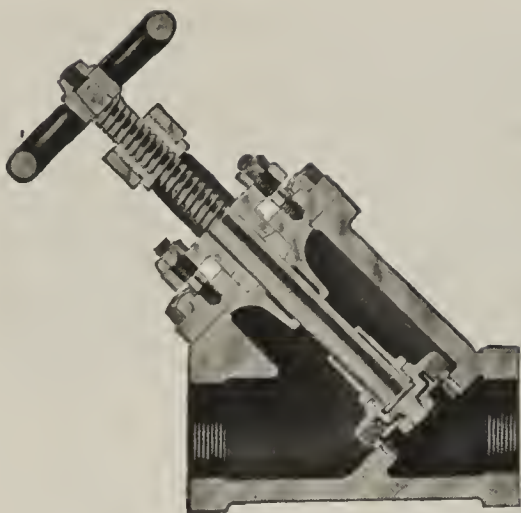
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Add ROLLIN'S at the pug mill, or in the dry pan, and it will render insoluble and harmless the scum-producing sulphates that are in your clay.

In sewer pipe clays it makes the salt glaze stick.

Well known concerns, such as U. S. Roofing Tile Co., Coral Ridge Clay Products Co., Sapulpa Pressed Brick Co., Coffeyville Vitrified Brick & Tile Co., and many others, are using it.

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(INC.)

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(N. J.) Board of Trade has been active in advancing the use of these commodities in connection with proposed Government work. There are many plants in the Raritan River section specializing in products of this nature, and wide demand would naturally bring about a resumption of near-normal conditions, giving employment to many men now seeking work. In reply to communications forwarded to Senator Frelinghuysen and Congressman Scully, interesting comments have been received. The first noted says: "Regarding the use of terra cotta in Government buildings, permit me to say that I have taken up this subject with C. W. Parks, Bureau of Yards and Docks, and also with the supervising architect of the Treasury, urging a more general use of terra cotta in constructional work. The subject is before the Government for such action as they may deem proper." Congressman Scully writes: "In accordance with your request of recent date, I am taking up the question with C. W. Parks, of the Navy Department, of designating in future specifications the use of terra cotta. Anything I can do to assist you and this great industry, will be cheerfully done."

New Mexico

Bids will be opened for additional paving at Clovis, N. M., the first week of May. City Engineer Dobbs and Aldermen Doughton and Johnson spent several days in Amarillo and Plainview recently inspecting paving in those two cities and are now convinced that brick is the right kind of paving for Clovis.

New York

The Rose Brick Co., 103 Park avenue, New York, has filed schedules in bankruptcy, showing liabilities of \$720,155, and with assets stated at \$1,020,949, consisting of real estate, stock equipment, etc.

The Alpha Brick & Holding Co., Glasco, N. Y., has filed schedules in bankruptcy with liabilities stated at \$79,328 and assets of \$105,611, the latter consisting of real estate, equipment, etc.

The situation in the New York brick market begins to look promising, and considerable activity has been evidenced during the past fortnight. Recent calls for material have reduced available stocks to a low point, and with the opening of the Hudson River for the season, brick manufacturers are commencing to ship cargoes. During the second week in April, an allotment of ten barges was received, the majority of which found ready sale. Building material dealers are keeping up their stocks well, and the available supply is entirely sufficient for all current demands. There is little danger of any shortage now that the up-river plants have inaugurated spring shipments.

The Rochester (N. Y.) Brick & Tile Co., which was organized in 1853, and was a combination of several small yards, has been sold and the 135 acres of the brick yards will be laid out for home sites. In the yard are twelve kilns, twenty-two small houses, three chimneys and a large barn. The new company will demolish these structures, with the possible exception of the barn. It is estimated that from three to five million salable brick will be obtained from the chimneys and other buildings. The Monroe Avenue Land & Improvement Co., Inc., has bought the brick yard for approximately \$175,000. The Wyant-Simpson Real Estate Co. will be the selling agents for the home sites.

Prices of common brick in New York still hold at \$15 per thousand for good grade stock in cargo lots alongside wharf,

while delivered on the job, the price is about \$18.75. It is held in many quarters that this price will not be lowered during the spring, and, in fact, will remain up for some time to come, the small output of brick during the past year and the high scale of wages and difficulty in securing labor, being held responsible for this attitude. The outlook for the present season does not convey a heavy run of material, and in all likelihood production will be light. The price of face brick shows no decline from \$25 per thousand as quoted for Colonials to \$45 per thousand for good grade, rough and smooth grays. Hollow tile is quoted by the dealers at from \$63.75 per thousand sq. ft. for size of 2x12x12 inches, to \$153 per thousand for 6x12x12. Fire brick of good grade is now selling around \$70 per thousand.

Building construction work at New York and vicinity is constantly expanding from day to day. There are signs of activity, not only in Manhattan Borough, but in Brooklyn and on Long Island, and the entire outlook is one of considerable encouragement. The first quarter of the year in the Borough of Manhattan shows that plans were filed for 6 new buildings aggregating in cost \$7,351,700, or an increase of \$3,427,600 over the corresponding period of 1918. This work includes dwellings and tenements, garages, and a number of factory buildings. In the same period, the alteration and improvement work to existing structures totaled \$3,502,900, or an increase of about \$1,497,890 over the same period in 1918. Plans are under way for a number of large projects to involve a considerable sum, particularly in the Long Island district, where a number of industrial concerns are planning for new factories to aggregate close to \$5,000,000 in total cost. In Brooklyn a large number of wellings are to be erected, and thruout Queens Borough concerted activity is being developed for a large number of buildings. At Forest Hills, Long Island, the New York City Board of Education is arranging for the erection of a new three-story brick and limestone school to cost about \$200,000.

North Carolina

The Elk Mountain Manufacturing Co., Asheville, N. C., has been incorporated to manufacture clay products, by Owen Jorvell, J. E. Swain and Ruffner Campbell, with an authorized capital of \$10,000.

Ohio

The Bloomfield Clay Products Co., Lockwood, Ohio, has been incorporated by Charles G. Carlson and others, with a capital stock of \$25,000.

The Ney Tile Co., of Ney, Ohio, has been chartered with capital of \$5,000 by J. W. Neff, Carrie Neff, J. E. Goller, Essie Goller and W. W. Campbell.

The Richards Floor Tile Co., of Swanton, Ohio, has been incorporated with a capital of \$25,000 by Samuel L. Richards, Fletcher D. Richards, William J. Batchman, Edgar L. Loudenslager and Peter J. Callaghan.

The Ironton (Ohio) Building Supply Co., which has been handling a general line of building supplies for some time, has taken on face brick and will be the agency for the Ironlay Brick Co., of Columbus, Ohio, in that section.

M. E. Rogers, of Deshler, Ohio, reports that business is very good in his territory and that he cannot nearly fill the demand for his tile and building block. Mr. Rogers has recently installed a pyrometer system on his plant.

The Buckeye Tile Co.'s plant at Pemberville, Ohio, which has been idle for several years, has been purchased by R. F.

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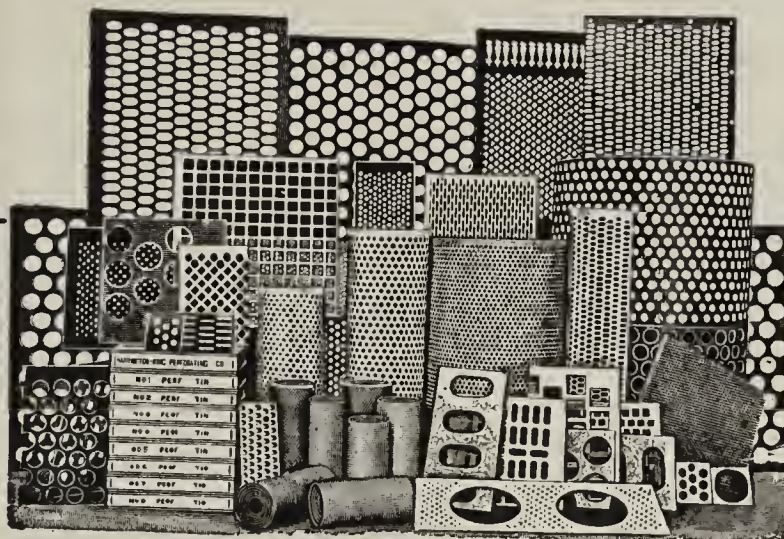
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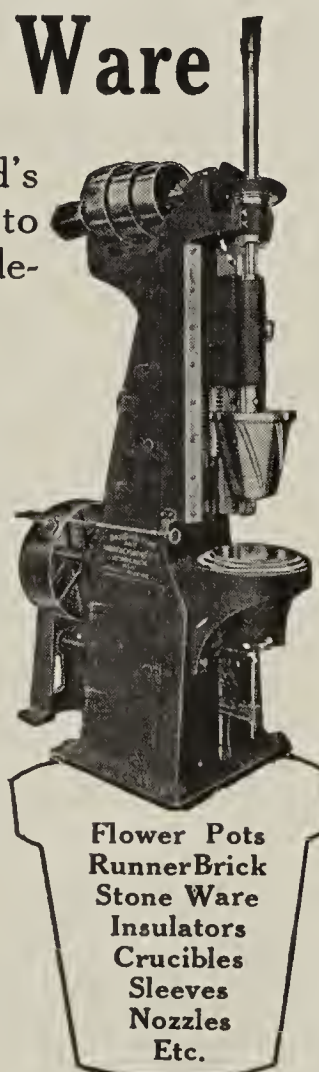
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Are you providing modern equipment to attract desirable labor?

Electric Self-Loading trucks are proving an unqualified success lightening labor and reducing trucking expense handling brick, clay or fuel.
One man on an Elwell-Parker special Electric Brick Barrow performs with little effort the work of six to ten hand wheelers. He delivers a 4,000 pound load in half the time.

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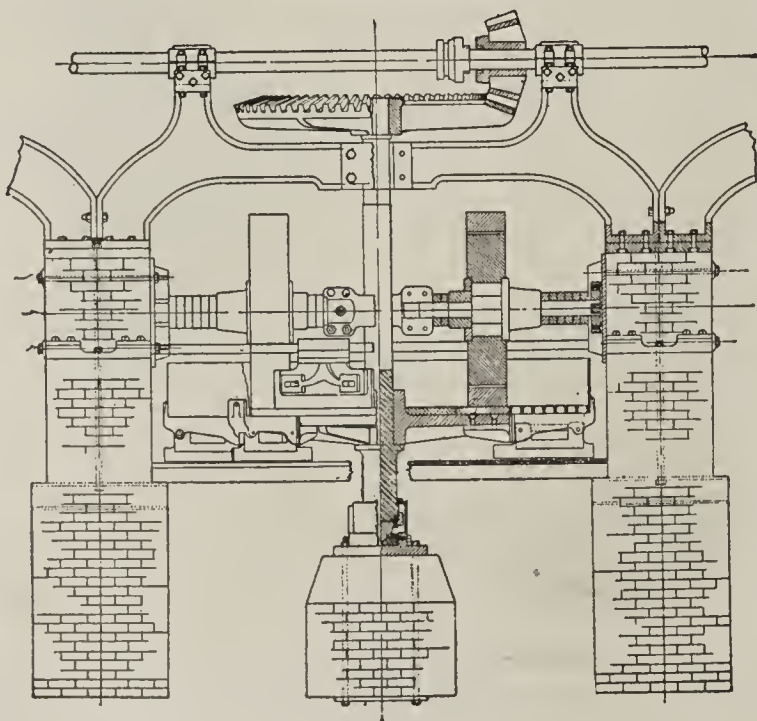
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is being chosen for the reduction of clay and shale by successful claymen because careful comparison with other makes, and records of their performance, show the "Means" to be the best.

Special features are the improved step and toe, and adjustable bearings.

In addition to dry pans we manufacture all equipment required in sewer pipe and tile plants, and our special goose-neck attachment for the sewer-pipe press affords a means of making brick directly from the press. Write us.

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Conley, of Harpster, Ohio, an experienced tile maker, who will run the plant to full capacity in the near future.

Brick as a road improvement material is gaining in popularity in Ohio, according to the reports of Clinton Cowen, Ohio Highway Commissioner. Bids will be opened April 30 for brick construction jobs in Ashland, Knox, Stark, Tuscarawas, and Washington counties.

The Consolidated Clay Products Co., of Canton, Ohio, has been chartered with an authorized capital of \$1,000, which will soon be increased to a larger amount for the purpose of manufacturing various kinds of clay products. The incorporators are G. R. Cross, Paul Keough, C. A. Alexander, Tafton M. Dye, and I. M. McDonough.

The marked shortage of homes is one of the best features of the building situation in Columbus, Ohio. Renting property is at a premium, and there are no vacancies of any consequence. Dwellings in the suburbs, which are not included in the figures given above, are being projected in large numbers and many have already been started.

The Ironclay Brick Co. has completed all arrangements to start its Shawnee plant at Shawnee, Ohio, which will be in operation by April 20. Plans have also been made for starting operations at the Hanover plant in Licking County, Ohio. Other face brick manufacturing concerns are also preparing to start operations, including Claycraft Brick Co., at Shawnee and Groveport.

Building permits in Cincinnati, Ohio, showed a marked improvement over previous months. During March there were \$354,805 permits issued, as compared with \$191,915 in February. The March valuation is within less than \$4,000 of the valuation of permits in March, 1918. The aggregate value of permits for the first three months is \$696,980, as against \$1,390,500 for the corresponding period in 1918.

The Mt. Cherry Coal Co., recently chartered with a capital of \$600,000 at Columbus, Ohio, has an extensive clay deposit on its property in Holmes County, near Fredericksburg, on the C. A. & C. R. R. A clay grinding plant will soon be started and in addition the coal deposits will be worked. Warren B. Ferris, formerly head of the Warren B. Ferris Brick Co., of Columbus, is president and general manager of the new company.

General Manager Harry Horwell, of the East Liverpool (Ohio) Brick Manufacturing Co., plans the erection of an additional kiln should increased business continue. This is the only face brick plant in the upper part of the Ohio Valley in Ohio, and has been in continuous operation since the new owners came into control of the property several years ago.

The Hocking Valley Fire Clay Co., Nelsonville, Ohio, reopened its works in full force on April 7, to take care of a number of orders on hand. "Our product is specified for several large jobs," writes C. E. Jewett, treasurer of the company, "and we are sincerely of the opinion that as soon as confidence is restored in the buying public, that there will be an enormous construction business."

The Columbus (Ohio) Fire Brick Co., which was formerly located in the Hartman Building, and has moved to new quarters at 16 South Third street, has changed its name to the Columbus Fire & Face Brick Co., and the plan is to handle all clay products. Emmet Howard is general manager of the concern, which has been quite prosperous since its organization about two years ago. The company handles face and fire brick, terra cotta, clay products and steel sash. It represents the Atlantic Terra Cotta Co., the American Enameled Brick & Tile Co., the Detroit Steel Products Co.,

and various face brick plants in Ohio, Pennsylvania and Indiana.

A very interesting session of the Ohio Paving Brick Manufacturers' Association was held at the Deshler Hotel, Columbus, April 10. It was the annual meeting and the attendance was unusually large. Conditions in paving brick cricles took the greater part of the time of the members. It was the consensus of opinion that conditions look much more favorable, altho it is believed they will be slow in developing. There is much work in prospect, and it is believed that a busy season will result. Officers elected were: J. L. Murphy, of the Nelsonville (Ohio) Brick Co., president; F. Lawson Moores, of the Harris Brick Co., Cincinnati, vice-president; J. R. Marker, secretary and commissioner, and H. C. Moatz, of the Medal Paving Brick Co., Cleveland, treasurer.

Building conditions in Columbus and Central Ohio continue to show development in various directions. Permits issued by the City Building Department for the week ending April 12 shows that construction work valued at \$112,545 was undertaken. This is \$32,190 more than was provided for during the previous week and brings the total building in the city during the past three weeks to \$285,500. There were 19 new residences started in the city during the week in addition to other projects, including apartments and small store buildings. During the past three weeks a total of 41 dwellings have been started. In commercial lines building is also making splendid progress in the Buckeye capital. Figures are being asked on several large jobs, notably among which is a building for the Franklin Loan & Savings Co., to cost about \$130,000, a large addition for the Columbus Pharmica Co., to cost about \$70,000, and other smaller projects.

Pennsylvania

The Cameron (Pa.) Clay Products Co., manufacturers of brick, has been incorporated under Pennsylvania laws with a capital of \$100,000. Ralph W. Touzeau is treasurer.

The T. A. O'Leary Co., Pittsburgh, Pa., has been incorporated with a capital of \$10,000 by T. A. O'Leary and associates to manufacture refractory materials.

The clay pot department of the Pittsburgh (Pa.) Plate Glass Co., at its No. 1 plant at Creighton, Pa., was recently destroyed by fire with loss estimated at about \$80,000. W. E. Barnes is superintendent at the plant.

The L. J. Bour Refractories Co., Scranton, Pa., has been incorporated under Pennsylvania laws with capital of \$20,000 by George Luxemburger and associates, to manufacture refractory materials of various kinds. Mr. Luxemburger will act as treasurer of the company.

A company to be known as the Mineral Products Co. has applied for a charter at New Castle, Pa., for the purpose of dealing in sand, gravel, clay, brick and other minerals in Pennsylvania, Ohio, and New York. The incorporators are Attorney Roy W. Hazen, John A. Edgar and David Kay. The capital stock is \$10,000. The firm will operate as a jobbing concern at first but later expects to acquire plants. Attorney Roy Hazen will be in charge of the offices which will be located in the Dean Building.

Common brick is selling for \$16 per thousand at Philadelphia, Pa., and prices are firm at this figure. Other burned clay specialties hold up well under existing quotations, hollow tile ranging from \$70 to around \$98, according to size, and partition tile from \$90 to \$105. Fire clay is bringing \$25 a ton. The building material dealers are keeping up



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All **Gandy** BELTING is red in color, and the bright green painted edge and trade-mark are plainly visible.

These two distinguishing marks are on every **Gandy** BELT. They're proof of our own faith in our product—our bond to you that we stand back of every inch of **Gandy** BELTING guaranteeing to the limit the material and workmanship, and providing engineering service that insures the very best results.

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"The S S S Special" Automatic Soft Mud Brick Machine



The "S S S Special" is the **ONLY** Automatic Soft Mud Brick Machine. It is Brick Machine, Bumper, Dumper, and Sander, all combined in one Great Machine.

**It Saves Labor and
Improves Your Product**

The "S S S Special" means
Improvement Advancement Progress

The Arnold-Creager Co.
New London, Ohio

their stocks in good shape in anticipation of a good revival in construction activities. The brick plants are producing, and all in all the material end of the game is in fine fettle for a "go ahead" movement.

In connection with its report for 1918, the National Fire Proofing Co., Pittsburgh, says: "The final result of our operations for the year shows a profit which we believe is creditable in view of the demoralization of the building industry. When the expected revival of building occurs, the company, by virtue of extensive economies in management, in manufacture, and in the cost of distribution is fully prepared to take advantage of the demand on a basis of efficient operation." The company's net surplus on January 1, 1919, was \$897,886.62, and the current assets \$2,859,596.14. The report is made by Vice-president H. M. Keasbey, the senior official of the company at the present time.

In referring to the proposed activities of the National Association of Builders' Exchanges in connection with the problems of the employer and employee, O. W. Ketcham, president of the Philadelphia Master Builders' Exchange and prominent in the brick and terra cotta business in this section, points out that the local exchange has always maintained a labor committee, empowered with authority to act for the exchange and its members; this committee, known as an advisory board, is designed to adjust matters relating to labor and differences that may arise at any time between it and the employee. This plan was adopted many years ago and has proved highly successful. The institution has now been in operation for a period of 32 years, and is held to be, virtually, the leader of all such exchanges.

A commendable spirit of cooperation is shown among the Philadelphia brick producers to stimulate building activities, and the drop in price in common brick may be directly attributed to their unified decision to do everything possible to help the market for building materials. At a recent meeting of the material men at the Philadelphia Master Builders' Exchange, it was voted to reduce the price of common, salmon, and stretcher brick, from \$2.50 to \$3.00 a thousand, with this reduction to remain in operation until after July 1, when another change likely will be made. In well-informed quarters, it is stated that there can be no further decline in price under present operating costs, and that in all probability higher quotations will prevail after the date noted. Philadelphia brick yards, which not only produce but supply material direct in this district, look for a fair season's run, with the demand opening up as now being evidenced.

Things are opening up in a good way in building circles at Pittsburgh. The call for dwellings and apartments is finding a response on the part of builders, and recent weeks have shown a large number of plans filed for the construction of brick dwellings. These homes vary in cost from \$30,000 to \$5,000 and \$6,000, while plans are under way for a number of duplex residences, apartments and tenements. Industrial work, as developing, also looks promising, and a number of plants in this vicinity have placed plans under way for proposed extensions. The Carbon Steel Co. has filed plans for the construction of a new brick boiler plant at Thirty-first Street and the Allegheny Railroad, to cost about \$75,000. Frank McCrooks, Century Building, architect, has commenced working drawings for a new institution for the Western Hospital for the Insane, to be located at Torrance, near Blairs-

ville. The project will include a group of buildings, with estimated cost placed at \$4,000,000.

Building conditions in Philadelphia are showing a healthier tone. And this is not only true about this particular city, but in neighboring sections, and in other parts of the state. Local architects and engineers are busy with the preparation of plans for a number of important projects, and it is generally anticipated that building material manufacturers and dealers will experience a like situation in the months to come. While the bulk of construction work is likely to be centered in homes and apartments, a number of industrial projects are expected to mature at an early date; public buildings and schools are also being contemplated, and the total expenditures for construction work will in all probability run into millions of dollars as the season advances. It is currently affirmed by those in position to know that 25,000 homes are needed in this locality, and that the drawback to construction at the present time rests with the financial interests which are waiting for the cost of building materials and labor to decline. Among the interesting projects recently developed, is a new seven-story brick, steel and terra cotta office and store building to be located at the corner of Sixteenth and Market Streets; the Hoffman Co., local architect, is preparing plans. The State Armory Board has taken bids for the construction of a one-story drill building addition to the Armory at Thirty-second Street and Lancaster Avenue, to cost about \$300,000; the structure will be 150 x 213 feet. The Department of Public Works has completed plans for the construction of a new brick and stone boat house and pavilion at League Island Park, to cost about \$125,000.

Tennessee

O. E. Deppen, of the Chattanooga (Tenn.) Sewer Pipe Works, says that they had a fair business last year and look for a good activity within the next sixty days. Their factory is running somewhat less than full capacity, but is operating. They are manufacturing sewer pipe and have lay interests for their various clay necessities. They are one of the oldest concerns in that section.

The State Geological Survey of Tennessee is continuing its monthly investigations of clays and minerals and is issuing some exhaustive treatises on the resources of the state in this line, accompanied by maps and drawings. The present state legislature, under the direction of the new governor, is giving some encouragement to the development of road work and internal affairs of the state that have been to some extent neglected for other interests.

Texas

Plans have been adopted by the War Department for the erection of barracks and housing facilities at ninety-five military posts and patrol stations on the Rio Grande. The estimated cost of these improvements is \$3,500,000. Most of the buildings will be of brick construction, it is announced. The work will be under the direction of Major F. G. Chamberlain, regional construction quartermaster of the Southern Department, with headquarters at Fort Sam Houston, Texas. M. L. Oppenheimer, of San Antonio, Texas, is preparing to ship and manufacture articles of magnesia clays, meerschauum, pumice dust, and soap clays, from the deposits owned by J. C. Melcher, of La Grange, Texas. Mr. Melcher has leased a lignite coal mine to R. O. Stokoe, of Smithville, Texas, and has also leased 600 acres to oil drillers. There is said to be oil under the fine clays and lignite beds. New machinery was recently purchased for the grinding of Fullers



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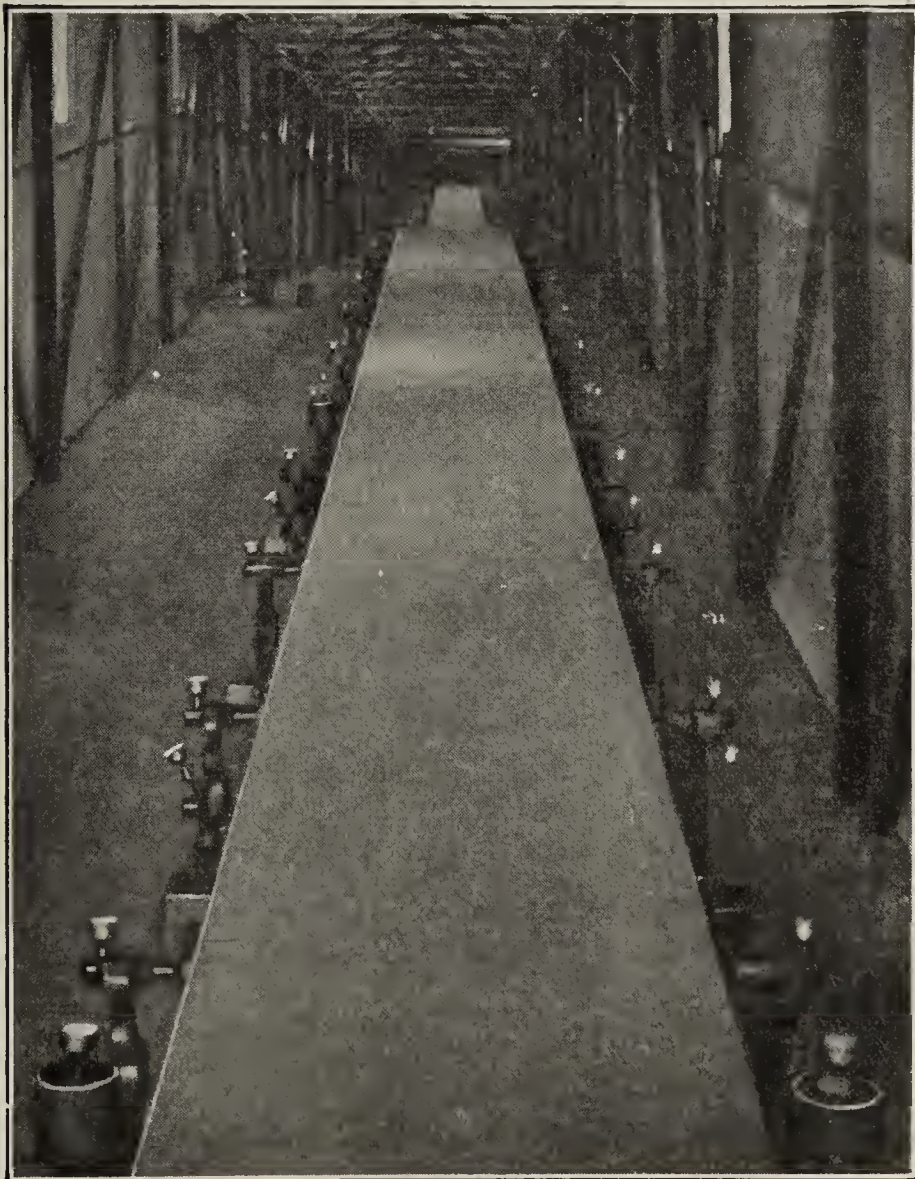
Where the service is hardest in your
Brick Plant.

This stitched canvas belting more
than meets the modern brickman's
demand for efficient transmission,
conveyor and elevator service.

It is backed by 30 years of experience
in Brick and Clay Plants.

Specify SAWYER.

United States Rubber Company
MECHANICAL GOODS DIVISION





The Gateway to Better Things

BOOKS

The Master Workman has a Master Mind—he knows perfectly his own merit, and in order to increase his knowledge, he studies the methods of other men—in the only way that he can—in books. If you would be master of your work you must read and know what others know.

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Select the books that you want the most, and we'll send them to you postpaid upon receipt of price, but we can't send any books on approval. All foreign books subject to 15 per cent import duty.

Address, Book Department,
Brick and Clay Record
 610 Federal Street, Chicago, Ill.

earth. Mr. Melcher states that he expects to start a brick plant very soon and also hopes to ship kaolin in the very near future.

Practically all of the business center of Ranger, Tex., which was recently destroyed by fire, will be replaced with buildings of brick construction. The burned buildings were of highly inflammable wood materials. An enormous demand for brick for building purposes has been created in a score or more of towns in Central West Texas where wonderful oil development operations are being carried on. The railroad shipping facilities are inadequate to the transportation demands of this part of the state, and hundreds of cars of brick and other building materials are tied up on congested sidings and town terminals.

Utah

The county commission on March 28 authorized closing of the deal whereby the county silica beds at the mouth of Neff's canyon will be quit claimed in favor of the Utah Fire Clay Co., of Salt Lake. The company will pay the county \$1,000 cash and will deliver to the county for road building purposes 50,000 tons of silica.

Vermont

H. K. Drury, Ensign, U. S. N. R. F., has returned after an absence of two years, to assume the duties of secretary and treasurer of the reorganized Drury Brick & Tile Co., Essex Junction, Vt., of which H. D. Drury is now president. The sheds of the company have been entirely emptied and operations will start as soon as weather conditions permit. Preparations are being made to cope with an increasing volume of business, which, it is thought, may be expected at an early period.

West Virginia

The Barboursville (W. Va.) Clay Manufacturing Co. has made a number of improvements on its plant, installing a new heavy duty smooth crusher and sanding apparatus. They report inquiries good.

In the Federal Court at Martinsburg, W. Va., Judge Alston G. Dayton entered a decree ordering the sale of the big plant of the Municipal Shale Brick & Block Co., bankrupt, located near Martinsburg. The value of the plant has been placed at between \$75,000 and \$100,000. District Attorney Stuart W. Walker has been appointed trustee and special commissioner.

Canada

The Sidney Island Brick & Tile Co., Vancouver, B. C., has made application for a winding-up order.

A. H. Wagstaff, brick manufacturer, 302 Greenwood Ave., Toronto, is building a public garage, which he will operate in addition to his brick plant.

The Clay Products Agency Ltd. has opened an office at 8 Colborne St., Toronto, under the direction of Chas. H. Wallace, formerly with the Hamilton & Toronto Sewer Pipe Co. Ltd., Hamilton. Sewer pipe and other clay products will be handled.

The Department of Mines, Quebec, gives the following figures on production in that province for 1918:

	Value 1918	Value 1917
Brick	\$581,415	\$530,594
Tile (drain) and sewer pipe, pottery, etc.	318,901	213,678

The executives of the Canadian National Clay Products Association met in Toronto on March 12. The transportation rates on clay products were discussed and a committee was appointed to deal with the matter. The committee consists of Thos. Kennedy, of the Dominion Sewer Pipe & Clay Industries, Ltd.; John S. McCannell, Milton Pressed Brick Co., Millard F. Gibson, National Fire Proofing Co., and G. C. Keith.

An excellent program is being prepared for the annual convention of the Canadian National Clay Products' Association, to be held in Montreal, May 26, 27, and 28. The people of Montreal are well known for their hospitality and visitors will be well looked after during the convention. The clay products manufacturers of Montreal and the Province of Quebec extend a cordial invitation to all manufacturers in the United States and Canada to visit Montreal from May 26 to 28 inclusive.

J. F. M. Stewart, of the Port Credit Brick Co. gave an address on the industrial relations of the employer and employe at the third annual meeting of the Joint Committee of Technical Organizations, on March 24. He declared against the six hour day, that the physical welfare of the workman did not require it. He thought employes should be taken into the confidence of the management. The Workmen's Compensation and Mothers' Pensions were evidence of how employer and employe could cooperate. He advocated pensions for all workers reaching the age of 65 and who are in poor circumstances.

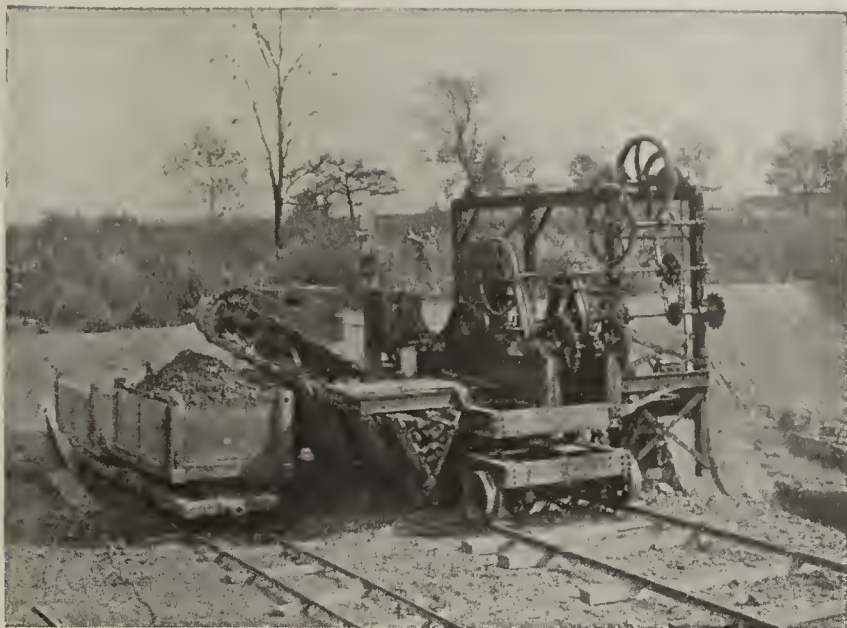
The Redcliff Brick & Coal Co. Ltd., Redcliff, Alta., according to Ernest H. Sellhorn, intends to manufacture red press brick, rough face brick, common wire-cut brick, hollow brick and building tile, this season. During the period of the war this concern made only the brick that the market required. According to Mr. Sellhorn, before the war 102 plants reported manufacture in Manitoba, Saskatchewan and Alberta. Last year only eleven yards operated and those less than half capacity. Considerable improvement is anticipated this season and some of the plants that have been idle will resume operations. However, Mr. Sellhorn states, they do not expect a large increase in demand this year.

The executives of the Western Ontario Clay Workers' Association met in London, Ont., on March 21 and 22. The natural gas situation was under discussion. In connection with this matter the following met in Toronto on March 26 to 28: C. S. Parker, London; Gilbert Armstrong, Fletcher; Ed. Cornhill, Chatham; A. W. Hill, Coatsworth; Robt. T. McDonald, Brigden; Fred Ferguson, Guelph, and J. W. McEvoy, London. Last winter as a war measure and on account of the severity of the weather, the use of gas was curtailed. Now there is no reason why the gas companies should not carry out their old agreements with the various municipalities within the gas zone. An endeavor will be made to have the old act again apply. While in Toronto, C. A. Millar piloted them thru the Greenwood Avenue plants. C. A. Millar and G. C. Keith joined them in their deliberations.

* * *

Harbison-Walker Has Big Year

The sixteenth annual statement of the Harbison-Walker Refractories Co. has reached stockholders. The statement is for fifteen months, covering the fiscal period from September 20, 1917 to December 31, 1918. For the period, after charges, there remains net profits of \$5,504,956.76, and after



An Achievement in **ECONOMY**

Your digging cost will be further reduced by the new Buckeye Digger Model C. M. It discharges to the bank or to pit, or to both, alternating, as desired. The new combination conveyor enables operator to change his discharge from pit to bank delivery by operating a lever which reverses the conveyor in the digging frame.

Then there is the new type multiple prong cleaner. It digs hard shale or the stickiest Hudson clay without loss of time or lowered capacity due to stickings. The frame of underslung truss angle construction is light and very rigid. All parts subject to severe strain and wear are made in cast steel.

If you measure your investment by the work done, the Buckeye is the best and the cheapest digger for you to buy. We have records of actual performance to prove it.

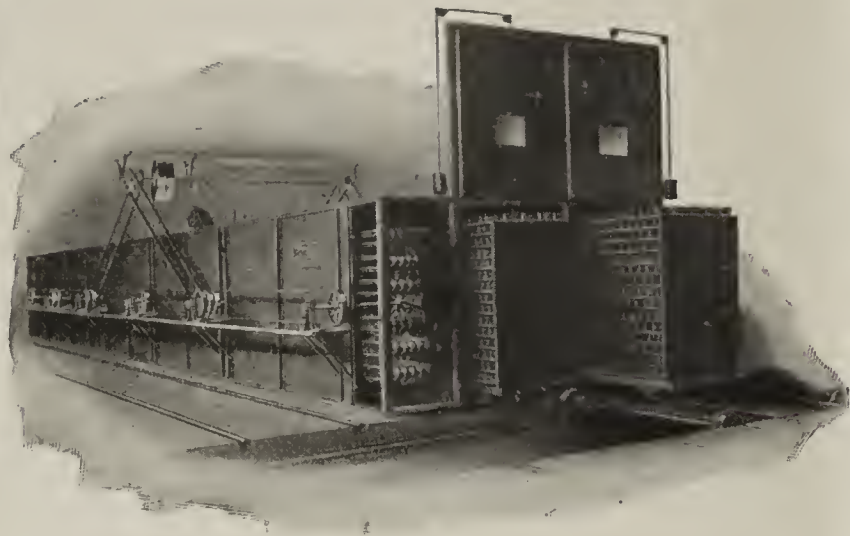
Write us now for a copy of "Digging for Profit"

The Buckeye Traction Ditcher Co.
Findlay, Ohio

Buckeye

Traction Digger

As we couldn't better the perfect mixing, we improved the Buckeye construction to handle increased capacity and to lower your digging cost.



“Above All the Others”—

That's what one user says about his Proctor Dryer, compared with three other machines he operates.

Another customer, after an experience of five years with his Proctor Dryer, writes: “The working of this machine has been entirely satisfactory. It has cost us practically nothing for repairs.”

“Your Proctor Dryer has dried twice as much per day as the machine that we discarded” is the report from another user.

Still a fourth owner of a Proctor explains: “The space occupied by the dryer is about 10% of the space formerly occupied for the drying room.”

What others say is a good recommendation. What they *do* is real evidence of their faith.

Seventy per cent of the total business for new Proctor Dryers were repeat orders.

This is the record of the last four years in the Middle West District.

Proctor
DRYERS

For all Clay Products

Backed By a Service Record of 35 Years

**PHILADELPHIA TEXTILE
MACHINERY CO.**

Seventh Street and Tabor Road
PHILADELPHIA, PA.

CHICAGO, ILL. CHARLOTTE, N. C. PROVIDENCE, R. I.
Hearst Bldg. H. G. Mayer, Realty Bldg. Howard Bldg.
HAMILTON, ONT., CAN., W. J. Westaway,
Sun Life Building

29

dividends on both classes of stock there was carried to surplus account \$2,354,956.76. Total surplus at the end of the fiscal year was \$12,372,031.99.

President H. W. Croft makes the following statement to stockholders:

“The sixteenth annual statement for the period ending December 31, 1918, with report of Arthur Young & Co., certified public accountants is submitted herewith. Attention is called to the fact that this statement covers a period of 15 months, it having been deemed advisable to change our fiscal year, formerly ending September 30, to correspond with the calendar year.

“During the above period three wage advances were made, making a total of seven advances in the years 1916, 1917 and 1918, which combined amounted to over 100 per cent. These wage advances were not all accompanied by corresponding advances in the selling price of brick, the last general advance in brick prices being in July, 1917. The conditions under which we operated, due to shortage of labor, car supply, coal and other material, were much less favorable than the preceding year, resulting in a considerably decreased output.

“These conditions, together with the fact that our income and war profit taxes were very much higher than the preceding year, make this statement all things considered a fairly satisfactory one.”

✻ ✻ ✻

Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912.

of “Brick and Clay Record,” published Bi-Weekly at
Chicago, Ill. for April 1, 1919.
State of Illinois }
County of Cook } ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Edwin G. Zorn, who, having been duly sworn according to law, deposes and says that he is the Editor of the “Brick and Clay Record,” and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher: Kenfield-Leach Company.....Chicago, Ill.
Editor: Edwin G. Zorn.....Chicago, Ill.
Managing Editor.....None
General Manager: H. H. Rosenberg.....Chicago, Ill.
Business Manager: David B. Gibson.....Chicago, Ill.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent. or more of the total amount of stock.)

F. B. Cozzens.....610 Federal St., Chicago, Ill.
H. H. Rosenberg.....610 Federal St., Chicago, Ill.
S. J. Leach.....610 Federal St., Chicago, Ill.
L. W. James.....610 Federal St., Chicago, Ill.
F. J. Sauer.....610 Federal St., Chicago, Ill.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent. or more of total amount of bonds, mortgages, or other securities are. (If there are none, so state).....None

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

Edwin G. Zorn

(Signature of editor, publisher, business manager, or owner.)
Sworn to and subscribed before me this 25th day of March 1919.

Catharine C. Judge.

My commission expires Nov. 22, 1922.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Fontaine Detachable Body

The Fontaine Detachable Body consists of two bodies, a crane operated by a hoist, and a frame. On the bottom, or unloading end of the body, is a wood pallet of rough construction, being made of several boards placed over two cross members. The bodies are adaptable to any standard motor truck, and can easily be applied to them by an ordinary mechanic.

The operations of loading and unloading are very simple. In picking up a load, the cradle, with its lateral extending arms, supports the body when in a vertical position, or when it is being lifted. The hoist is then rotated. The weight is never lifted directly from a head pull, but is merely pulled over a fulcrum that forms a support for the cradle, which carries the body. Little effort is required to operate hoist in raising load.

The advantages of this detachable body are quickly ap-



Showing the Detachable Truck Body.

preciated. While your truck delivers a load of ware to a buyer, an empty body is loaded at door of kiln. The brick are not pitched, but placed in the body. Then when the truck returns, the empty body is exchanged for the loaded one, and in this way the truck remains in the yard only a few minutes.

More details about this method of making your truck delivery practical and profitable can be secured by writing the American Truck Body Co., Martinsville, Va.



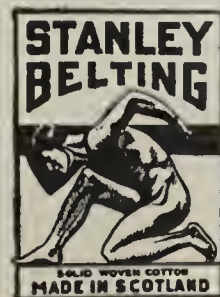
The Pulsometer

Although the various types of piston, rotary and centrifugal pumps adequately meet the ordinary requirements of water works stations, power plants, industrial plants, etc., they are entirely unsuitable for two great classes of pumping work:

(a) That in which some sort of rough and ready reliable pump is needed—a pump which can be set up and taken down quickly, one which operates practically without attention, and is not subject to interruptions or excessive wear due to gritty or muddy water.

(b) Permanent installations, where the pump must handle thick, viscid or gritty material.

The best device to meet these conditions is—the Pulsometer. It has absolutely no mechanically operated parts, the only elements in motion being three check valves, which



Stanley Service

Measure your belting service by long time averages. It's not immediate results or first costs that count. Belting that runs regular, always, that doesn't require watching, is the best belting for economy and for service.

Because of its unusual construction,

Stanley Belting *Solid Woven Cotton*

gives better service year in and year out. It is absolutely uniform, and flexible, which means steady drive, less slippage and more power transmitted at less tension. It has more strength because it has no plies or laps to come apart, and no stitching to break or wear through. After the first cut, Stanley is guaranteed not to stretch. It withstands heat, oil, and acids better than leather or rubber. It is the belt for brick and clay plants.

"We purchased two 8" belts from you about three years ago," writes a customer. "This belting has been used constantly since that time and is still as good as new."

The British Government as well as the U. S. Navy Department are large users.

Order a sample, or write for price list now.

Stanley Belting Corp.
32-40 So. Clinton St. Chicago, Ill.

Sizes from 1/2 to 42 in.

KISSEL TRUCKS

A 365-Day-a-Year Service Range

THE far reaching effect in the Brick and Clay Industry of Kissel's 11 years of motor truck designing and construction experience is that Kissel trucks are built to overcome obstacles unsurmountable with trucks of less development.

This 100 per cent service range is possible only with perfectly balanced trucks—in which weight, size, dimension and power are related to one another in exact proportion—giving an incomparable, perfectly balanced chassis, headlined by the powerful Kissel-built engine.

You should have the 1919 Kissel truck catalog, showing how Kissel trucks will fit your individual requirements by giving the Kissel "three-way-truck-performance-range," *over-supply of power, unusual ability for continuous service and low operating cost.*

Kissel trucks are sold in all principal cities where specifications and catalogs can be secured or direct from the factory.

KISSEL MOTOR CAR COMPANY
Hartford, Wisconsin, U. S. A.



are enclosed, and operate automatically. It has no packings, glands, springs, or stuffing-boxes, no rubbing surfaces, pistons, gears, or shaft bearings. It consists of one compact unit, can be picked up and set down anywhere, and will start off as soon as connections are made and the steam turned on. It needs no special foundation, requiring nothing more than suspension by a chain or rope from an overhead beam or timber.

It is generally conceded that the extreme simplicity, lightness, low first cost, saving in transportation and foundation charges, etc., are enough to recommend the Pulsometer for

a 11 rough-and-ready pumping work, such as for brickyards, etc.

The Pulsometer is being installed in many places and doing duty as a permanent pump, and it is frequently asked "What is the efficiency of the Pulsometer?"

Unlike other pumps, there is no such thing as the mechanical efficiency of a Pulsometer, since there is an absolute absence of rubbing surfaces. What an engineer should really take into consideration is the actual cost of pumping water per water horsepower developed. Comparisons made on this basis show that the Pulsometer is unsurpassed in "efficiency" by any other pump in its class.



The Pulsometer.

More interesting details about this pump and its efficiency are given in the catalog which you may obtain from the manufacturers, Pulsometer Steam Pump Co., 220 West 42nd St., New York City.

The Brookville Truck & Tractor Company of Brookville, Pa., distributors for the Leathers Gasoline Haulage Motors, as advertised in "Brick and Clay Record", report an unusual number of inquiries from all sections of the United States. These inquiries are not only for their motors, but even for all kinds of construction and milling equipment—which they do *not* handle. They feel that an industrial boom is coming soon and that all machinery manufacturers should be prepared to take care of this business which will be here within the next sixty days.

The Ricketson Mineral Paint Works, Milwaukee, Wis., secured an order for 60,000 lbs. of Chocolate Mortar Color on one job—Skinner Packing Company building, Omaha, costing two and one-half million, and covering eleven acres. Ricketson Mortar Colors were selected in strong competition with other brands.

Lieutenant Commander H. J. Elson, U. S. Naval Reserve Force, has been released to inactive status and has resumed his civilian work as Secretary and Treasurer of the Walter A. Zelnicker Supply Co., St. Louis. He will have the general internal management of operations and manufacturing of the Zelnicker Company and its various allied subsidiaries.

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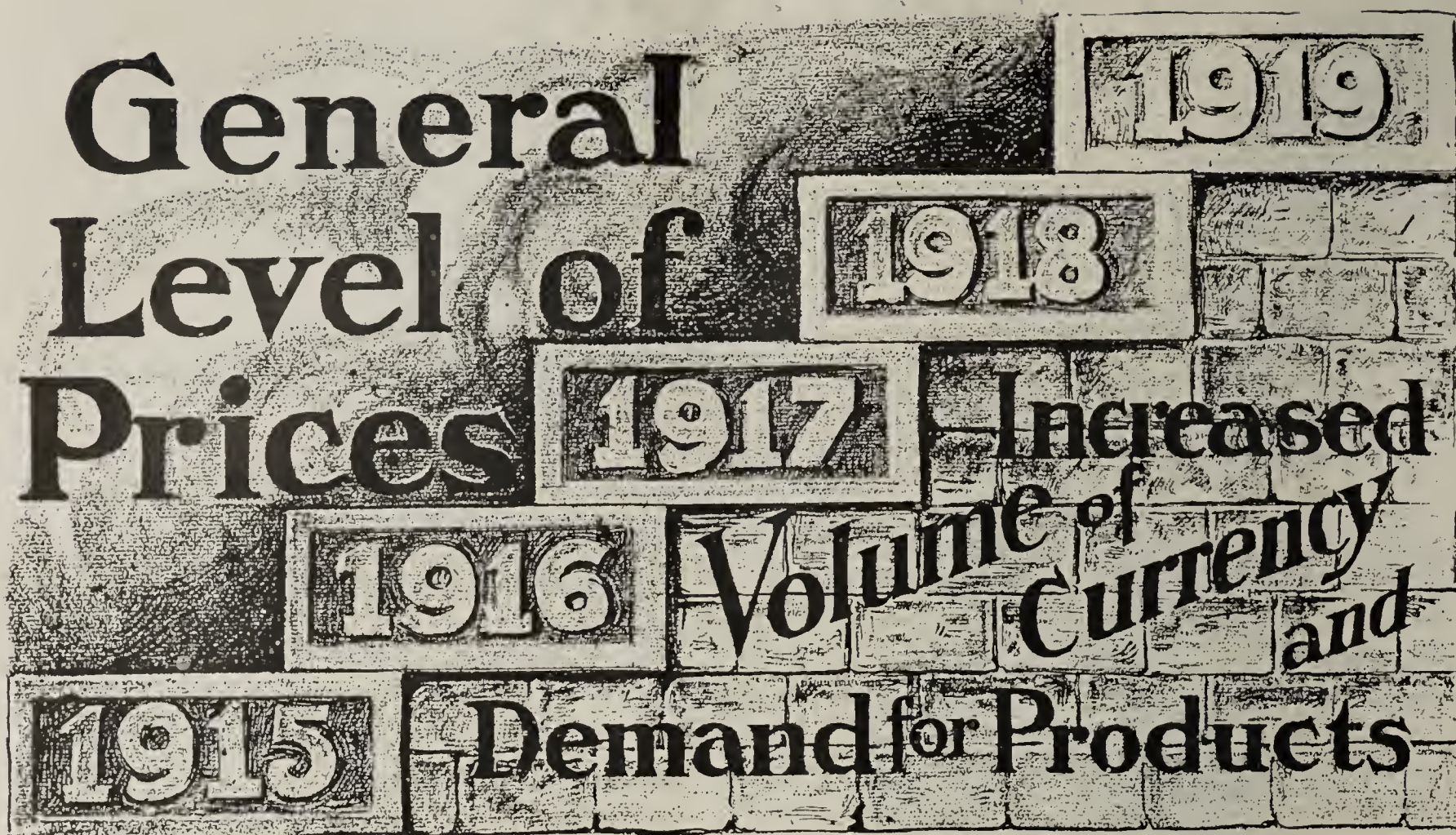
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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.



To get up **HERE**—
took five years

**it will take much longer than that to go back—
if we ever go back**

Prices went up steadily during the war, first, because there was a constant and enormous increase in our circulating medium (money and credit) in which all other commodities are measured; second, because there was a constant and sustained demand for production.

That demand kept all capital and labor steadily employed at a remunerative rate. To sustain that remunerative employment of capital and labor will insure continuous prosperity.

The world needs production today, as much as it was needed during the war. The only difference is that we need *less* of some things and *more* of others.

We no longer need cannon, shells, and powder. We need tractors, plows and fertilizers.

We are three years behind in our normal necessities for homes and public buildings.

We are five years behind (or more) in our needs for railway facilities including rolling stock.

We are ten years behind in the development of one of our most essential and profitable natural re-

sources—waterpower. More than any other nation on earth we stand in need of good roads and highways—thousands of miles of them.

With the capital and labor which has been devoted to war turned into avenues of production for these things which are so essential to our industrial progress and economic life, the earnings of that capital and labor will develop an enormous market for shoes and clothing and food, and all the other commodities made for the comfort or to meet the desires of mankind.

With *consuming* and *purchasing power* thus sustained our farms and factories will continue to teem with activity and prosperity will abound throughout the land.

With capital and labor thus fully and profitably employed and with the enormously increased volume of our currency the only price effect we can logically expect will be in the adjustment and probable decline of speculative prices—a result that can but little effect the level of legitimate values.

Let's Go!

The EDITOR'S CORNER

The Illinois Price Investigation

THERE HAS JUST BEEN COMPLETED an interesting investigation on the part of a special committee from the Illinois State Legislature with regard to the present price of building materials. On another page of this issue some details are given with regard to the sessions of this committee and the testimony of brick men before it.

Inasmuch as executives, legislators, manufacturers and dealers in other cities and states have been watching this investigation with more than usual interest, it might be well to point out for the special benefit of those who would institute a similar inquiry in their own particular state, that the results of the Illinois price inquiry committee showed that no reduction is to be expected. Altho the political element entered early into the hearings, the clay products manufacturers that appeared before the committee maintained their equilibrium, answering all questions in a straight-forward, clear and concise manner.

When all of the facts and figures were laid on the table, it could hardly be said that any one was profiteering and that in the face of present manufacturing costs it was hardly possible to effect a reduction in prices until wages, coal and supplies "hit the toboggan."

* * *

Furnish a Material That Will Build a House That Will Stand in the Storm

A READER HAS ASKED that we write an editorial urging the manufacture of nothing but high quality building tile and warning the industry against the bad effects that are certain to follow the sale of partition weight square tile for use in exterior walls.

This is a subject upon which we are very glad indeed to express our opinion. It seems to the writer that it should be taken for granted that a hollow building tile manufacturer who has any interest whatsoever in the progress and welfare of the industry in which he is engaged, would make nothing but a tile that would stand the load required for materials used in exterior walls of buildings. Sometimes the desire to get into a market and sell the output of a plant located where an inferior clay is found has obscured the vision and befogged the good sense of an otherwise intelligent business man, resulting in tile being sold for load-bearing purposes that is fit for nothing

more strenuous than use in the erection of partitions. This is exceedingly unfortunate and should be discouraged in every possible way. We believe we voice the sentiments of every progressive hollow building tile manufacturer in the expression of this opinion.

The sale of inadequate material made from burned clay, resulting in failure of the structure, does more harm for the hollow building tile business in a day than a dozen wide-awake manufacturers, "hitting on six cylinders" so to speak, can repair in a year, or even longer.

If the hollow building tile industry can afford to do anything it can afford to so sow that it will reap a reputation for nothing but a quality material, so made and so designed, that it will respond to the best engineering treatment.

* * *

Burned Clay Develops Sudden Prominence in Concrete Aggregate Field

A NEW FORM OF burned clay that promises to develop some very interesting competition for the producers of stone, slag, gravel, and other mineral aggregates used in the mixing of concrete, is fast being developed. "Engineering News Record," of New York, in its issue of April 24, has an extensive article covering four pages entitled, "History and Properties of Light-Weight Aggregates." Those of our readers who are interested are urged to give this article careful study as it is a good description of the manufacture and possibilities of this new burned clay aggregate.

In the first paragraph of this article in "Engineering News Record" the statement is made: "This artificial aggregate has been developed by the Concrete Ship Section of the United States Emergency Fleet Corporation, but until now no definite statement of its method of manufacture or of its properties has been given out. 'Engineering News Record' is permitted here to make public the present knowledge of the material."

This statement is not exactly accurate since *Brick and Clay Record* a month previous, to be exact in its March 25 issue, published an article entitled, "Burned Clay For Concrete Aggregates," which described the manufacture of this material at the plant of the Los Angeles (Cal.) Pressed Brick Co.

There is no question but that the results of recent experiments of this material open the door for a much wider usefulness of burned clay. While the possibilities of the new aggregate have been largely limited to concrete ship construction up to the present

time, it would seem that its greater field would lie in the saving made possible by its use in the erection of buildings where the super-structure is of reinforced concrete. As "Engineering News Record" says in its issue of April 24, "Structural concrete rarely requires the weight that generally is necessary or at least useful in mass concrete or masonry. Every pound that is gained without loss of strength is a saving multiplied many times in the reduction of other members proportioned to carry dead as well as live load. Ten months of experimenting have demonstrated that a satisfactory artificial aggregate can be made almost anywhere in this country, and that the technique of its manufacture, while not easy to be learned, can be developed in many types of kilns. The crucial element yet to be determined is its price, and a favorable reply to this question will be eagerly awaited by structural engineers. If such a material can be put down on the job at competitive figures, the stone and gravel men would soon find that their selling problem has taken on new difficulties."



Cost of Living Shows Downward Trend

A NUMBER OF CLAY PLANTS have had difficulty in starting the manufacture of their product this year due to the fact that a satisfactory agreement as to wages could not be arranged between the employes and employer. In some instances, especially where full demands in wage increases were not granted, the men have agreed to accept a certain increase which is to be in effect only until July 1. After that date, they expect to demand another increase depending upon the cost of living at that time which they expect will be considerably higher than at present.

In regard to the cost of living, it is interesting to note the direction of the wind which is evidently changing as is shown in statistics that are available. In the "Superintendent" department of this issue appears a very good article on the method of adjusting wages to the cost of living. It will be noticed that the purchasing power of money is now increasing hence the need for increase in wages will become unnecessary provided the present scale is satisfactory.

Statistics compiled by the New York Industrial Commission show by use of index numbers the relation between average weekly wages in a large number of factories and the retail prices of food thruout the United States. An index number is one of a series of numbers that expresses a value in terms of another number, arbitrarily chosen to represent 100. For example, if the cost of a quantity of products was \$250 in one month and \$300 in the following month, and \$250 was selected as the base, i. e. as 100, then \$300 would be expressed as 120. One

table which shows the relation between the index numbers for each month from June, 1914, to February, 1919, is especially interesting. The index numbers for both wages and food prices were assumed to be 100 for June, 1914, and the variations for each month from that month to the present time are shown. The largest difference between the two values was in January, 1918, when the index number for wages was 132 while that for food was 162. However, the closing of factories by order of the Fuel Administration was a factor that affected the wage values and helped make this big difference. The index numbers since December, 1918, have started to approach equal values until in February, 1919, they became equal (174) but of course much higher than in June, 1914, because of the depreciation in value of a dollar.

It is true that food costs represent only forty-seven per cent. of the average worker's expenditures and that rent and clothing form a large part of his expenses but rise in prices of other commodities does depend a great deal upon the cost of food and it is not expected that rent or clothing will advance much from now on so it is quite reasonable to believe that cost of living has reached its highest peak and any workman receiving a fair wage at the present time cannot expect to claim an increase, in the near future, at any rate. These statistics should serve as a good guide to any manufacturer confronted with the problem of wages and they also serve to show the tendencies in living costs and wages.



Help the Government to Help Us

THE GOVERNMENT is a tremendous buyer all the time—whether the country is at war or not. If there is a war on, the purchases are of war material. If peace rules, the Government is in the market for everything needed in civil administration and preparation for defense.

How is the Treasury to pay bills without money? How is the Government to obtain the money without collecting taxes, or borrowing from the people?

After a great war like the one now being closed all the belligerent countries are face to face with very serious problems. Great Britain and France are talking of boring a tunnel under the Channel from Dover to Calais. What for? To provide work for the army of workers now released from the military service and in dire need of work and wages.

But the American Government cannot carry out such a plan unless the people of the country have sufficient good judgment to give generous support to the financial program of the Treasury Department.

The Victory Loan campaign closes in a few days. Help make it come thru a winner when the gong sounds

INFORMATION WANTED

from BRICK MEN *for the*

FREIGHT RATE FIGHT

Preparations Being Made to Go Before the Interstate Commerce Commission With Plea for Relief from Oppressive Transportation Charges Now in Effect—Attorneys Still Working With Railroad Administration

By Waldon Fawcett

EVERY BRICK MANUFACTURER in the country may expect in the near future a summons to make his contribution to an array of facts and figures intended to constitute overwhelming evidence of the handicap under which the industry is laboring by reason of excessive and disproportionate freight rates. Each producer will be asked to set down, as an "exhibit" for use at Washington comparative "before and after" figures covering his tonnage and indicating, as clearly as may be, what falling off in business he has sustained as a result of the oppressive transportation charges now in force.

The marshaling of this evidence of the havoc created by unscientific rate-making is incident to the future steps in the long-drawn fight to secure for the industry relief from the rate exactions under General Order 28 of the United States Railroad Administration. The "ammunition" will be collected from manufacturers by means of questionnaires sent out thru the trade associations but it is designed for use by the attorneys who represent the industry before the Railroad Administration and the Interstate Commerce Commission at Washington.

Without any wish to be pessimistic it may as well be frankly admitted that the preparations to assemble evidence from the experience of tradesmen in every nook and corner of the country means in effect that hope of any early solution of the freight rate situation is waning. Unless all signs fail, the Railroad Administration is not going to weaken in its attitude toward the clay products industry, and there will be nothing for it but to set out on a long-drawn fight in the only quarter, other than in Congress, where redress may be obtained, namely before the Interstate Commerce Commission.

A FINAL SHOW-DOWN HOPED FOR

That the freight rate situation has, to be blunt, taken a somewhat more discouraging turn since the issuance of the April 22 number of *Brick and Clay Record* does not mean, however, that the representatives of the industry at Washington will quit in any quarter until hope is wholly gone. Thus, for all that it looks as tho reliance would have to be placed on the Interstate Commerce Commission, the spokesmen for the trade are still hammering away at the Railroad Administration. The Railroad Administration has not only failed to admit the justice of a revision of freight rates that were avowedly adopted as a war measure to discourage building but it

is impossible to pin it down to what it will or will not do.

Effort is now being made to arrange, on behalf of the industry, a final conference with Director Edward L. Chambers of the Division of Traffic. If this confab can be arranged it is the expectation that representatives of the face, paving and common brick interests together with their attorneys will sit in with the traffic arbiter in a final effort to persuade him to put down in black and white what relief, if any, he is willing to give from the tariffs resultant from General Order No. 28. I hear the prediction in some quarters that if the question finally comes to a show-down in this way the Railroad Administration may offer a sop to the industry in a reduction of the advance from 2 cents to 1 cent—that is, from 40 cents to 20 cents a ton—not saying, however, that such a concession would be satisfactory or acceptable to the industry.

Meanwhile the representatives of the trade who are in contact with the Railroad Administration have brought forward another bone to pick with that organization. It has to do with the so-called reduction on construction materials as an inducement for highway construction and improvement. It is the feeling in the trade that, by virtue of the limitations that hedge it about, the lately announced reduction of 10 per cent. in the freight rates on stone, slag, sand and gravel when consigned to Federal, state, county or municipal governments is a poor makeshift of encouragement to public improvements, but, be that as it may, the brick trade does not relish the omission of brick from the category of favored materials. It is contended that brick is clearly entitled to rank with the other commodities cited by virtue of the extent of its use for paving and road building and a most vigorous protest has been lodged with the Railroad Administration against the discrimination shown.

If the fight before the Interstate Commerce Commission on the part of the brick industry to obtain justice in freight rates has to take its natural course, running the full gamut of time-consuming legal formalities, it will probably be late in the autumn before a conclusive decision is reached. There was one possible short-cut—justified by a single precedent—if the Commerce Commission could have been induced to, as a layman might put it, go after the Railroad Administration on its own initiative. However, the Commission has decided this past week that it is not justified in going to this length.

to raise quickly the question of whether the brick industry is entitled to relief.

PROMPT ACTION IS IMPERATIVE

Just at present energetic effort is being made to be ready to file a formal complaint before the Commerce Commission by the middle of May. The reason for prompt action will be understood when it is explained that the Railroad Administration is allowed twenty days in which to answer and thirty days are allowed for the filing of briefs before a hearing is due, yet there is eagerness on the part of the brick industry's representatives that a hearing shall be had in July because the Interstate Commerce Commission schedules no hearings for the month of August and if the question cannot be brought to issue in July it will, perforce go over until September with proportionate retarding of all the later disposition of the case.

If the race against time is won and a hearing obtained in July there will yet remain some tedious lapses in the early autumn. A member of the Commerce Commission will presumably be delegated to hear testimony; in due course there will be formulated a tentative report; this will be open to "exceptions," and ultimately the full Commission will have to pass upon the case. There is a chance that it will be found possible to waive some of the formalities but generally speaking this quest for relief at the hands of the Interstate Commerce Commission is one of those things that seemingly cannot be hurried beyond a certain gait.

BRICK MEN URGED TO RESPOND AT ONCE

An important responsibility at this juncture is to obtain from the brick men the most convincing possible "exhibits" in proof of what the present inflated freight rates are actually doing in demoralization of the industry. This is the judgment of Francis B. James who will conduct the case before the Interstate Commerce Commission and who, by virtue of his position as Chairman of the Committee on Commerce, Trade and Commercial Law of the American Bar Association, is in a position to know what evidence weighs most heavily under such circumstances. It is realized that no brick manufacturer will want to spread out where he who runs may read, intimate details of individual transactions in his recent business career, with names, dates, etc. It is hoped, however, that each shipper will be nothing loath to fill out on the blank that will be sent him the aggregates of tonnage covering comparative six-month intervals, etc., together with data as to tariffs. No date has been set for the return of these figures but brick men will be urged to respond "at once" and upon their willingness and ability to get their evidence to Washington in time for a hearing in July may depend whether the industry can hope for a show-down next autumn or whether it must face another "hard winter."

With the price stabilization program of the Industrial Board of the Department of Commerce revived, thanks to the intercession of President Wilson, and with the Construction Material Division again functioning there will be curiosity in the industry as to whether the Railroad Administration, having been thus rapped across the knuckles for its lack of the spirit of co-operation will be any more inclined than it has been in the past to grant freight rate concessions as an encouragement to private building operations. Candor compels the admission that there are no signs of a change of heart in this respect altho officials of the Industrial Board declare emphatically that the burden of freight rates, ranging

from 25 to 150 per cent. above the prewar level, is the one most serious drag to the resumption of something approaching normal operations in the clay products line. Incidentally the attention of the railroad officials has been directed pointedly to that portion of the United States Chamber of Commerce report of April 25 which shows brick production at only 25 per cent. of normal and many plants closed down entirely.

By the by, it is to be noted that officials generally in Washington are commending the brick manufacturers for their liberality in agreeing to the price reductions recently announced voluntarily and which it is an open secret are likely to be approved without amendment by the Industrial Board once it is restored to a position of full authority. Specialists at the Industrial Board who went over the figures submitted in detail by the brick manufacturers do not conceal their belief that the brick men have so literally "gone the limit" in their price concessions that it will be possible for them to operate successfully at the lowered quotations only if an appreciative consuming public will step up and give the trade the generous volume of orders in anticipation of which the price recessions have been voted.



Wages in New York State Factories

Interesting facts about the labor market in general and also in the clay industry can be gleaned from the "Labor Market Bulletin" which is published monthly by the Bureau of Statistics and Information of the New York State Industrial Commission at Albany, N. Y. A bulletin released on April 28 states that the decline in wage volume, which has been taking place since last December, came to a halt in March, when the aggregate amount of wages paid to factory workers increased slightly over the similar amount reported in February. This increase—which is less than a quarter of one per cent.—is significant not in itself, but as an indication that manufacturing conditions are no longer such as to require a further reduction in the aggregate payroll.

Of the eleven groups into which the manufacturers of the state are classified, six reported increased payments for wages. The most conspicuous advances were seven per cent. each in stone, clay and glass, and clothing.

The average weekly earning of factory employees in March was \$22.80. This is an increase of thirteen cents over the average as reported in February but is ninety-eight cents less than the record wage of December, 1918. The average weekly earnings show a considerable range in the various industries. At the bottom of the scale are textiles and clothing with averages of \$15.86 and \$10.92, respectively. The highest weekly earnings are found in the production of light and power group and in the metals and machinery industry. The above facts are based on an analysis made from reports received from 1,645 manufacturers with over 560,000 employees. These manufacturers are chosen because of their representative position in the industry of the state.

The average weekly earnings in February in representative brick, pottery and tile plants in New York state for the past few years is as follows: 1915—\$11.65, 1916—\$11.91, 1917—\$13.27, 1918—\$15.10, and 1919—\$21.23. For the same years the average weekly wage for all industries was \$12.41, \$13.77, \$15.31, \$17.66, and \$22.07 respectively.



Minneapolis has just let a contract for 100,000 sq. yds. of brick pavers at \$1.45 per square yard, to the Streater (Ill.) Clay Manufacturing Co.

CUTTING CONVEYING COSTS *in the* BRICK PLANT

Showing How a Progressive Brick Manufacturer Can Save Time and Labor by the Adoption of Improved Means of Handling His Material

THIS IS THE DAY of mechanical labor-saving equipment. Any machine, device, or better and more practical means of operation to bring about minimum labor demands and make for greater efficiency in different features of production is valuable, distinctly so—and the live, progressive brick manufacturer knows it.

High costs of labor and materials, coupled with the scarcity of really good labor and the constant increasing factor of general overhead expense have made it a matter of vital necessity for the producer of burned clay products to carefully consider every item of manufacture and in every department of operation, from purchase and receipt of raw ingredients to the sale and shipment of the finished commodity. The day when "little leaks" might exist is past; there can be no mis-step—the aim must be as near 100 per cent. as possible if profits are to be shown at the end of the yearly period.

HANDLING MATERIALS

In time gone by, if materials used for production or finished wares were handled once, twice or more by hand labor it was frequently neglected and simply taken as a matter of course. Then came the greater and more concerted introduction and consequent wider demand for labor saving equipment, causing enterprising plants everywhere to adopt improved means of handling and conveying materials. While today, it is not so much a matter of choice and wish, but rather one of real urgency and need, if, under keen and active competition, an equalized footing with modern plant production and consistent costs is desired.

Whether the need exists for cars, trucks, buckets, industrial railways, hoisting and conveying apparatus, or the like, all requirements should be fully considered, and the right equipment secured for the right purpose. Mechanical installations can be overdone as well as underdone, and it is the happy mean between the two extremes that will make for desired and satisfactory operation and service. In supplanting labor with machinery, such must be selected as best adapted to the particular work. The ideal condition is found where material need be handled but once by hand labor, letting mechanical equipment do the rest, or as much of the rest as possible.

Many progressive brick-making plants not only seek to replace labor by machinery these days when such machinery will do the work cheaper, but prefer to utilize such equipment for humane and other reasons, even tho the costs may be the same or a little higher. This is because the mechanical appliance is more reliable and accurate, and therefore, more efficient in the long run.

INTERESTING PORTABLE CONVEYOR

Using men for wheelbarrow service for storing, moving or loading material is usually a costly practice, and to solve this problem in a consistent and effective way, a portable scoop conveyor has been developed that is almost "human" in its ability to perform certain work. A view of this con-

veyor, unloaded and ready for service, is shown in Fig. 1, while a machine loaded with various materials as brick, coal, sand, tile, etc., to afford a comprehensive idea of the commodities for which suitable, is illustrated in Fig. 2.

This conveyor is of endless belt type, with one of the primary features the scoop or "nose" on the feeding end, and from which the machine takes its name. This scoop can be pushed or completely buried into the material to be conveyed, making it possible to simply scrape such material onto the carrying belt, instead of lifting it by shovel into feeding hoppers, as frequently required.

CONSTRUCTION

As will be noticed in the accompanying illustration, the machine is constructed of a steel frame; this frame, holding the rollers used for the operation of the conveying belt, is mounted on two wheels, and under perfect balance. The conveyor is operated either by electric motor or gasoline en-



Fig. 1. Close-Up View of Portable Conveyor Showing Some Details of Its Construction.

gine, which is mounted under the frame. This is clearly shown in Fig. 3, which sets forth a side view of the machine, with gasoline engine arrangement. This transmits power to the conveyor by means of a chain and sprocket connection to a shaft beneath the conveyor. From a sprocket on the

other end of the shaft the power, in turn, is transmitted to the driving sprocket, located at the upper end of the

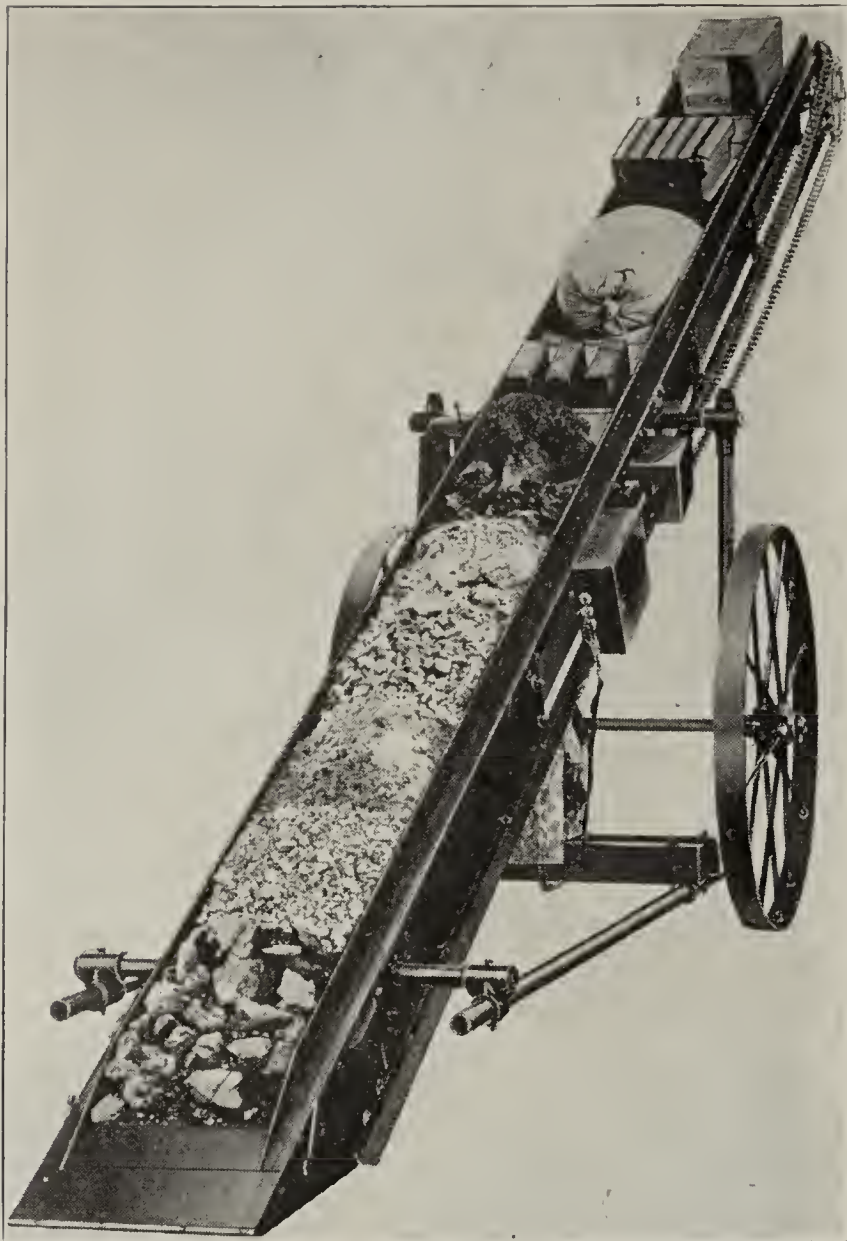


Fig. 2. Illustrating Some of the Different Materials Which Can be Handled by This Type of Conveyor.

conveyor. This simple driving mechanism will be readily noted in the illustration, Fig. 2.

The carrying belt is made of heavy duck and rubber conveying belting, with duck cross strips. These transverse cleats are provided to prevent the material from slipping back down the incline. An interesting and rather novel feature of the machine is the construction of the side or "skirt" plates. These form a trough which allows a 12-inch belt to equal in carrying capacity a 20-inch troughed belt. This is made possible thru the ability of the side plates to hold the material together, permitting the entire belt width to operate under the load.

PORTABILITY

The simple steel frame and wheel mounting allows immediate removal of the machine by one man to such point and position as desired. At the lower end of the upright frame supporting the conveyor, two horizontal pipes are arranged, one on either side of the trough, and which join the side supports of the machine near the lower end.

By inserting two pieces of pipe in these ends, to serve as handles, the conveyor may be moved about from place to place, in manner similar to that of a wheelbarrow. This easy method of local locomotion is shown in the illustration, Fig. 4.

The vertical pipe supports holding the frame allow for adjusting to such height as might be desired, within the limits of range. The machine is now being made in three different sizes, 13 ft. 8 in., 19 ft. 8 in., and 24 ft., such being the length of scoop belt; the width of this belt may be

either 12 in. or 16 in. on any of these sizes. The first noted elevates to a total height of 5 ft. 9 in. from the ground, the second may be adjusted for any height from 6 to 9 ft., while the 24 ft. model may be adjusted for any height from 9 to 12 ft.

ALMOST UNLIMITED USES

There are practically unlimited uses for the machine, both in regard to general utility and character of the material to be handled. It is particularly serviceable for storing, reclaiming and loading bulk material and light articles, as well as for elevating and removing material from one location to another, or for feeding from cars and delivering into fixed conveyors or other desired points.

It is useful in handling all sorts of commodities as clays, sand, coal, ashes, ore, chemicals, salt, bags and light packages, brick, tile and other burned clay products, as well as numerous other materials. And each with the same effectiveness.

The machine can be placed in service for unloading cars direct into trucks, wagons or cars, or, again, for loading cars direct from trucks, wagons, etc. It can be employed for loading or unloading barges, where shipments are received by water, and transferring material from the hold of one vessel to another, or to any desired point.

It can be used singly, in tandem or in triplicate, as conditions may require. The employment of sets of two or more allows for an increase in height of the storage pile or conveying distance. Fig. 5 shows the conveyor in use for loading (in this case, coal) direct from a bin into a truck, while Fig. 6 illustrates the use of three machines for unloading from hopper cars up a long steep incline.

CARRYING CAPACITY

The saving from the use of a machine of this nature is found first in minimum labor demands, and second, in the rapidity at which the material is handled. As compared with the handling of commodities by hand, one or two men with a conveyor can accomplish the work of from four to ten men, depending on conditions. The machinery, it is said, will load trucks in from one-fourth to one-sixth the time required by men shoveling. Still another factor of saving is found in storage capacity, as with the use of the conveyor it is possible to increase the available capacity of a shed or yard space by allowing for higher piling of material.

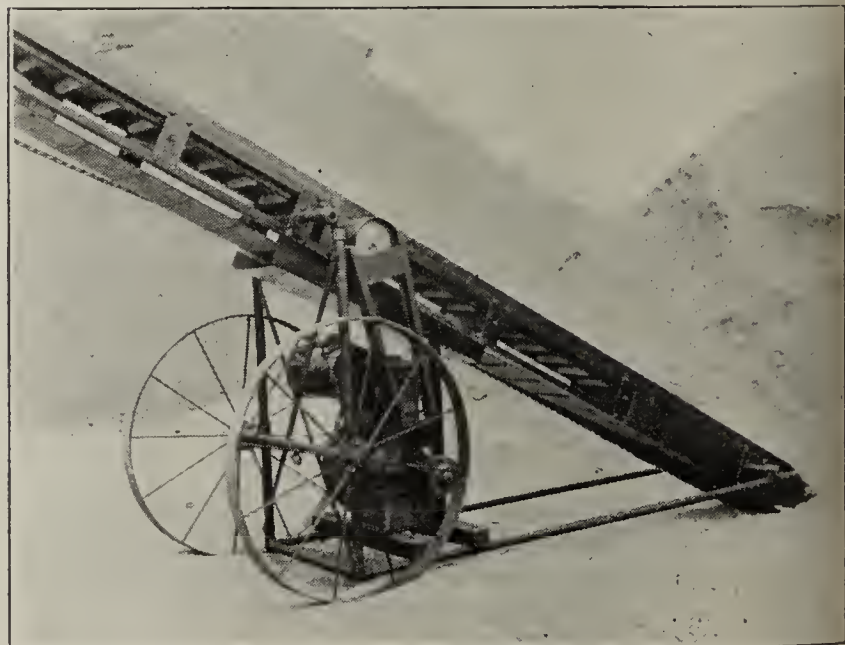


Fig. 3. Side View of Machine Showing the Location and Arrangement of the Gasoline Engine.

As a typical example of the ability of the machine, it is interesting to note that in an eastern clay and sand plant, a load of from 150 to 175 tons of silica sand is loaded into cars by the use of the conveyor and three men in a 9-hour

day, while heretofore it was impossible to attain this tonnage with the employment of six men, without the machine; in another instance, it is pointed out that the use of the conveyor for unloading coal from cars into bins has resulted in a cost of 4-cents a ton, as against a cost of 28-cents a ton with hand labor.

The carrying capacity of the machine is based on handling one ton in from one to one and one-half minutes, taking coal as the material and provided that a sufficient amount is maintained at the receiving end of the machine. If the pile is low and one man is used for loading the machine, it may require from two to four minutes. Where speed is particularly desired, two men can be employed for feeding. In unloading hopper bottom cars, the machine and one man, it is stated, can remove one ton per minute.

Large size coal or similar other materials, fed by one man, will average from three to six minutes per ton, or one-half this time using two men.

In the matter of maintenance and upkeep, the machine is particularly economical. The carrying belt is the point of greatest wear, and taking sand and grit as an example, a conveyor belt will handle at least 4,000 tons before requiring renewal. This figures down to a point of about one cent per ton of material as the average cost of replacement.



Fig. 4. The Ease With Which the Machine Can Be Moved About the Plant Is Shown in the Above View.

There are, of course, many uses in the brick plant and yard for a conveyor of this character, and the capabilities of the machine, as briefly noted, present an idea of the saving that may be effected in different features of work in connection with manufacturing. And if efficient mechanical means can be developed to cut the cost of this phase of operation, the same rule will apply to other departments of production.

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California Activities on the Increase

With building activities on the increase, clay products manufacturers in California feel that they are able to count on a normal amount of business from now on. All thru the state the use of clay products is on the increase and various plants and factories are laying plans which are to take care of a greater amount of work than has been turned out for many months previous.

Terra Cotta in numerous forms is widely used thruout California, as the style of architecture which is becoming more and more typical of the state, calls for terra cotta products in various forms, particularly roofing of the tile order.

In the southern part of the state, the Los Angeles Pressed Brick Co. has been foremost in the exploitation of clay products in general. Due to the resumption of more normal conditions in all lines of industry, the branches of clay prod-

ucts are speeding up to a noticeable extent, especially in that district. Factories are fast resuming normal output and as a



Fig. 5. One of the Uses of the Portable Conveyor Is Illustrated Above.

result of the shortage of products occasioned by the war it is expected that there will be a large increase in the demand for manufactured clay.

According to reliable statistics, the clay products industry in Southern California alone represents about \$3,000,000 annually, all of which is developed from the raw product found in local fields. The first large plant established in what is now known as the clay city, was plant No. 4 of the Los Angeles Pressed Brick Co., completed about two years ago and the second largest of the company. Fire brick and tile are the chief manufactures of this unit. During the war, the demand for fire brick and tile was maintained as these products were classed as necessities. The clay products industry in general, however, was hard hit by hostilities, as many of the products were classed as non-essentials and some of the plants closed down completely as a result of the war. The increased demand for fire brick did its share toward sustaining the demand for clay during the war.

A feature of the industry which is attracting wide attention in commercial circles is the possibilities along export lines. A recent survey of the field shows that about one-third of the articles now manufactured are being exported, but that practically everything made of clay can find a market in the countries reached via the Pacific Ocean route. In harmony with the plan of the manufacturers' committee and



Fig. 6. Shows the Use of Three Machines for Unloading Coal from a Hopper Car and Storing in High Piles.

the industrial bureau of the Chamber of Commerce, to group industries in similar lines and effect better coordination, a research plant has been established at Griffin avenue and Alhambra street, which will be open to all engaged in the clay products industry. Experimental work is being done in all branches and beneficial results have been obtained.

HESITATION *of* BANKS *to* MAKE TEMPORARY LOANS BLAMED *for* BUILDING STAGNA- TION *in* NEW YORK

PRESIDENT WILSON HAS CABLED Chairman Hines and Secretary Redfield to unite on some harmonious plan whereby the stabilization of all building materials may be continued, according to The Dow Service Daily Building Reports.

In the interim various building material interests are taking steps toward meeting the rent raising crisis by making building conditions as attractive as possible to prospective builders. Most recent of these was the action of the Paint Manufacturers' Association of the United States in convention at Cleveland when they agreed not to advance prices on that commodity for the remainder of the year. This adds another commodity to the growing list of building materials that have taken action to stabilize their prices, including Portland cement, lime and steel interests. In the latter case there was fear expressed that if the Secretary of Commerce and the Director of the Railroads could not unite on a workable steel price that the present level would be more disturbing to the market than if the situation had been left to work itself out on the law of supply and demand without federal interference. Many building material manufacturers accepted the principle as right, namely, that some guarantee ought to be made to prospective builders that prices could be depended upon for a certain definite time, thereby permitting banks and other interests to feel safe in granting temporary building loans.

BANKS HESITATE TO MAKE TEMPORARY LOANS

Various authorities are beginning to recognize that the cause of the present stagnation of building construction is largely centered in the hesitation of banks to make temporary loans under the present condition of prices. It is estimated that there is in excess of \$100,000,000 worth of new construction in the metropolitan district of New York that has been estimated on, but barely 15 per cent. of this total has proceeded to contract because banking institutions do not feel safe in making temporary loans as long as building material prices are so uncertain as to their trend. If further Federal action in price stabilization is to be expected by reason of the requested conciliation between the Railroad Administration and the Industrial Board, prospective builders will be encouraged to wait for "further enforced price drops."

As a matter of fact, it is too late even now to correct the conditions making for higher rents this autumn. If there is to be further attempts at Federal price stabilization the confidence now happily sweeping the country in the belief that building material prices have voluntarily found an acceptable level, "if they will only stay there long enough to let us get into the market this year", will be warped and the much needed general construction movement will be further delayed. It takes, as a rule, from thirty to sixty days to get plans drawn, specifications prepared, estimates in and general contract awarded. Not counting the current delays in getting building materials delivered at dock, delays due to strikes, delays resulting from adverse weather conditions, lack of common labor to carry on foundation and other preparatory work, etc., the season is already too far advanced to give hope to any considerable number of space seekers either in this city or its immediate suburbs for relief from high rents next autumn or in the following spring.

Speedy correction of the rent problem rests in the hands

of the Board of Aldermen who, by promptly passing amendments to certain sections of the building code controlling the use of brick, the use of yellow pine and extending the use of cinder concrete, can remedy matters.

REVISION OF BUILDING CODE THE SOLUTION

Every builder realizes that common brick is the dominant building material as a structural entity in any city, particularly, New York. This building material is higher in price today, proportionately, than is any other material. There are reasons why this is true and the reasons are beyond the power of the manufacturers, the Government or anyone else to control. It has to do, first, with the almost total absence of necessary "wheelbarrow" labor and of the tremendous amount of waste that occurs on all common brick yards.

In years past, there used to be a type of brick called "pale" or "light hard". In the burning of a kiln of brick, as the burning is done in the majority of Hudson River, Hackensack, Raritan, Connecticut or Long Island yards, a certain percentage of the brick come out of the fire only partially burned. When this type of brick is knocked, one against the other, there is a total absence of the hard metallic ring which characterizes a well burned brick. Recent code revision barred this type of brick entirely for use in New York building altho it is perfectly good for filling in walls where bearing strains are not applied. This type of brick represents from 15 to 20 per cent. waste that keeps the price of brick high in this market today. If the code could be revised in this particular, the dealers say, hundreds of builders would find their costs greatly reduced.

The code also restricts the builder to the use of yellow pine of a certain variety, whereas western fir is just as strong. By the use of cinder concrete and a type of reinforcement now barred in a measure by code restriction, simple amendments would, according to distributors, do more to solve the problem of high construction costs which directly affects rents, than price stabilization or artificial manipulation of costs.

The city's highest building code authorities, building material dealers and manufacturers are planning definite action at once to bring to the attention of the aldermen that the power to help reduce rents and cost of building lies largely in their hands.

* * *

Michigan Publishes Book on Drainage

Drain tile manufacturers will undoubtedly be interested in the announcement that a 133-page book entitled "Drainage in Michigan," is just off the press and ready for distribution by the Michigan Geological and Biological Survey, Lansing, Mich. This book which is designated as Publication 28, Geological Series 23, was written by Dalton G. Miller and Perry T. Simons.

Valuable and interesting information on the conditions affecting drainage, wet lands of Michigan, development of county drainage system, suggestions on designs of drains, construction methods, tile drains for county work, the Michigan drain law, necessity for creation of state department to handle water resources and drainage matters, and abstracts of drainage laws of Georgia, Iowa, Missouri, Ohio and Wisconsin, are included in the contents of the volume.

FIGHT *on* PACIFIC COAST *over* HOLLOW WALL CONSTRUCTION

Frederick Heath, An Architect of Portland, Ore., Claims to Have Invented a New Method of Constructing a Hollow Wall With Building Tile—Commissioner Originally Refused to Grant a Patent—Court of Appeals of District of Columbia Reverses Decision—Mr. Heath Secures Two Patents—In Decision Just Made Public, District Court of the United States for the District of Oregon Reverses Prior Decision, in the Case of Heath Unit Tile vs. Columbia Brick Works—Heath Promises to Carry to Supreme Court, if Necessary

ATTENTION IS CALLED, by a recent decision in the District Court of the United States for the District of Oregon, in the case of Heath Unit Tile Co. vs. Columbia Brick Works, to patents of Frederick Heath for a method of hollow wall construction.

This case is one in which every hollow tile manufacturer is more or less interested, and since it is now possible to publish some of the facts, this opportunity is taken to give, in some detail, a few of the developments surrounding the patents mentioned. Mr. Heath holds patent 1,215,149, dated February 6, 1917, and 1,244,328, dated October 23, 1917, and other patents applied for.

The Commissioner of Patents originally refused to grant Mr. Heath a patent for a hollow block building wall, the rejection being based on the following references: patent to Yarnall, No. 659,954, issued March 18, 1902; patent to Bynum, No. 744,480, issued November 17, 1903; patent to Lovett, No. 814,973, issued March 13, 1906; patent to Johnson, No. 837,572, issued December 4, 1906, and patent Denison, No. 942,621, issued December 7, 1909.

PATENT COMMISSIONER'S DECISION REVERSED

In the words of the decision of Josiah A. Van Orsdel, associate justice of the Court of Appeals of the District of Columbia, reversing the decision of the Commissioner of Patents, "the claims" of Mr. Heath, "are for the wall, constructed of the blocks described. The blocks are provided with longitudinal hollow spaces or voids, making the structure economical, and safe-guarding against the destructive effects of moisture, heat or cold. The design of the blocks and the construction of the wall are clearly described in the brief of counsel for the Government, as follows: 'The blocks are made in full width and half widths so that the mason can break the joints in laying the wall. The void spaces in the blocks are so located that when the wall is built the webs forming the sides of the void spaces will lie always in vertical lines to make what are termed tiers of strain-resisting sections. For this purpose he forms the larger or full-size blocks with two voids, each of the size of the void in the half size block, and these are separated by a narrow void or slit corresponding to the mortar space between the two abutting blocks of the tiers immediately above and below.' In the mortar space is left a narrow vertical void or

slit corresponding in size to the void extending thru the center of the full-sized block.

HEATH CLAIMS PATENT FOR WALL CONSTRUCTION

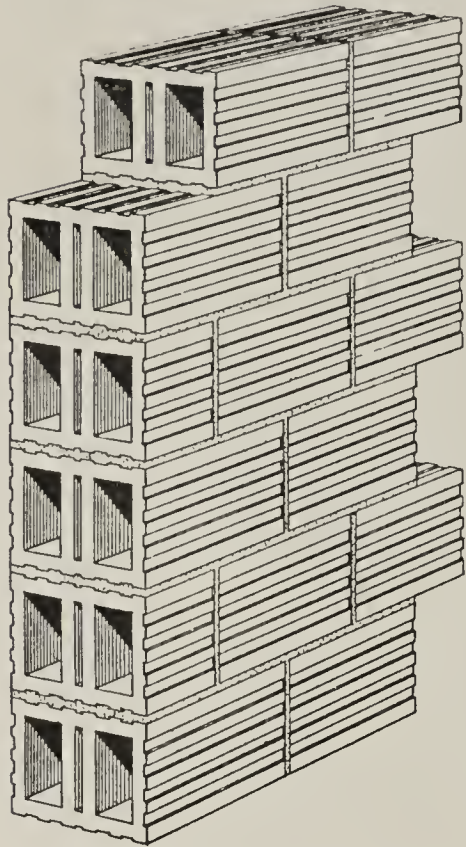
"It is important to remember that appellant is claiming a wall construction, and not a particular form of hollow block. The patents referred to are for various forms of building blocks. Hollow blocks of various constructions are in general use, and numerous patents have been granted in this art. The novelty of appellant's device consists in the wall which may be constructed by using blocks of his design. Without discussing the references separately, it is sufficient to say that in no case can a wall of any desired width be constructed from the blocks of any of the references where the voids and webs will be in perfect alinement, as disclosed in applicant's invention. In this device alone are the webs and voids of equal thickness and in perfect vertical alinement, thus forming a uniform series of voids extending horizontally thruout the entire length of the wall, and a perfectly alined series of vertical webs, thereby securing a maximum amount of strength from a minimum of weight.

"The block of the Bynum patent approaches nearest to the block of appellant of any of the references. A wall constructed of a single series of tiers of Bynum's blocks would have the voids and webs in uniform alinement and of uniform width, but the moment it is attempted to construct a wall of more than a single block in width, not only is there no method of inter-locking for the breaking of joints provided, but, in the construction of the wall where the blocks are laid side by side, the vertical web will be of double width, thus destroying uniformity of width of web, which is the controlling feature of the appellant's invention. Appellant's method of joining the blocks so that a void equal to that extending thru the center of the block is maintained belongs to his device, and no other. This is one of the principal features of his wall construction. It is novel and marks a decided step forward in the art.

A NEW COMBINATION OF OLD ELEMENTS

"The art is a narrow one, and any step which marks so decided an advance in strength, utility and economy of construction as that here disclosed, is entitled to recognition and protection. Not only does no reference cited anticipate ap-

pellant's claims, but no combination of the references can be devised which will accomplish this end. It is no answer that the construction of walls from hollow blocks is old in the art. A new combination of old elements amounts to invention where it produces a new and useful result, altho



Eight Inch Hollow Tile Wall Construction Which is Not Patentable.

each old element may have been suggestive of the use which be made of it in the new. *Steiner & Voegtly Hardware Co. vs. Tabor Sash Co.*, 78 Fed., 831.

"Neither can the accomplishment of appellant be attributed to obvious mechanical skill. We think there has been a clear invasion of the realms of invention, resulting in a wholly useful and novel advance in the building art. If it were doubtful, we would be compelled to resolve the doubt in favor of the inventor, and award a patent. It is easy to dispose of a case where the issue of invention is close by holding that the advance over the building art constitutes a mere mechanical change ap-

parent to those skilled in the art. But in the absence of proof to support this conclusion, and where the question of patentability is close, the doubt should be resolved in favor of the applicant. *In re Eastwood*, 33 App. D. C., 291.

"The decision of the Commissioner of Patents is reversed, and the clerk is directed to certify this proceedings as by law required."

DECISION REVERSED BY HIGHER COURT

Subsequently, in the case of the *Heath Unit Tile Co.*, complainant, vs. *Columbia Brick Co.*, defendants, in the District Court of the United States for the District of Oregon, the decision was unfavorable to the claims of Frederick Heath. District Judge Bean, in stating that the claimant was not entitled to the relief prayed for, said:

"The complainant's patent does not cover the blocks or material used in the wall. These are covered by prior patents. The larger block used is the same as shown in the patent of Johnson issued in August, 1915. The smaller block used in a twelve-inch wall is one in common use and substantially half the width of the larger block and practically as shown in a patent to Lovett issued in March, 1906.

PRINCIPLES COVERED BY OTHER PATENTS

"The principle of interlocking blocks and vertical alinement in wall construction is to be found in the patent of Dennison, issued in October, 1908. The complainant, however, contends that its patent is a new combination of these old elements producing an old result in a more facile, economical and effective way. That each separate element in a patent process was old does not negative invention, which may reside in the manner in which they are assembled, since the design as a whole and the improvement it makes are what must be considered. (*Grelle vs. Eugene*, 221 Fed., 68, 946). The fact, therefore, that the elements used by the complainant are old is not material for the combination is itself the entity with which we are concerned, and the ques-

tion is was the inventive faculty required for its production in the light of the prior art. 'It is not enough,' said the Supreme Court, 'that a thing shall be useful, but it must, under the constitution and statute amount to an invention or discovery.' (*Thompson vs. Boisselier*, 114 U. S., 485; *Hill vs. Wooster*, 132 U. S., 693.)

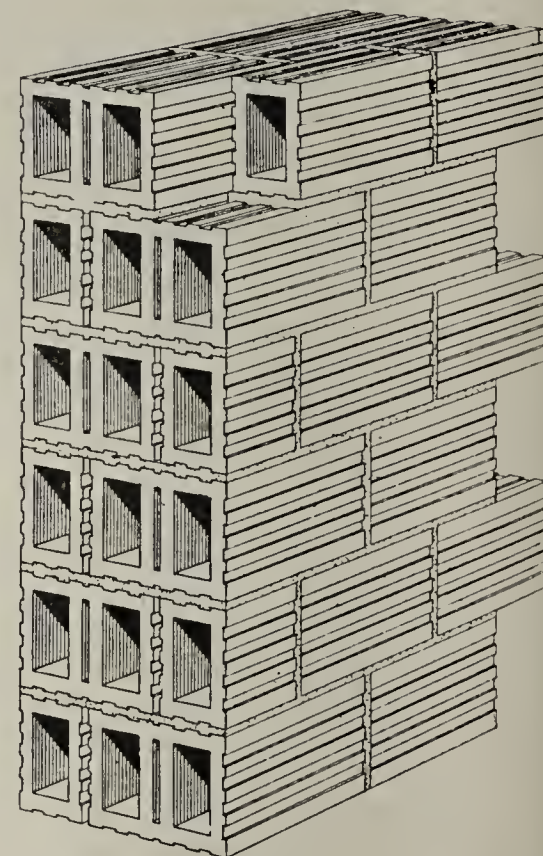
"The building of walls with hollow tile is an old art and, in my judgment, it requires no inventive faculty to so lay up the individual blocks or tiles that the voids and webs in the several blocks will be in vertical alinement, for such would be the obvious and practical method when possible, which would readily suggest itself to one experienced in such work. Moreover, the patent to Lovett shows walls formed of hollow blocks of different sizes laid horizontally. The patent to Denison shows walls formed of blocks so laid that the webs of different courses are in vertical alinement. There could be no invention in forming a wall of the Johnson blocks laid horizontally nor, in view of the Lovett and Denison patents, would there be invention in using with the Johnson block a smaller block of such size that the joints overlap and the webs of the several courses will be in vertical alinement."

COUNSEL FOR COLUMBIA BRICK WORKS MAKES STATEMENT

Following the decision of Judge Bean, T. J. Geisler, counsel for the Columbia Brick Works, made the following statement:

"The novelty of the tile wall construction which Mr. Heath claims to have invented consisted in the building of the wall with hollow blocks laid horizontally, so that the webs and voids in the several blocks would be in vertical alinement. Mr. Heath also claims to have been the first to discover the utility of leaving the spaces between adjacent blocks in the horizontal courses open.

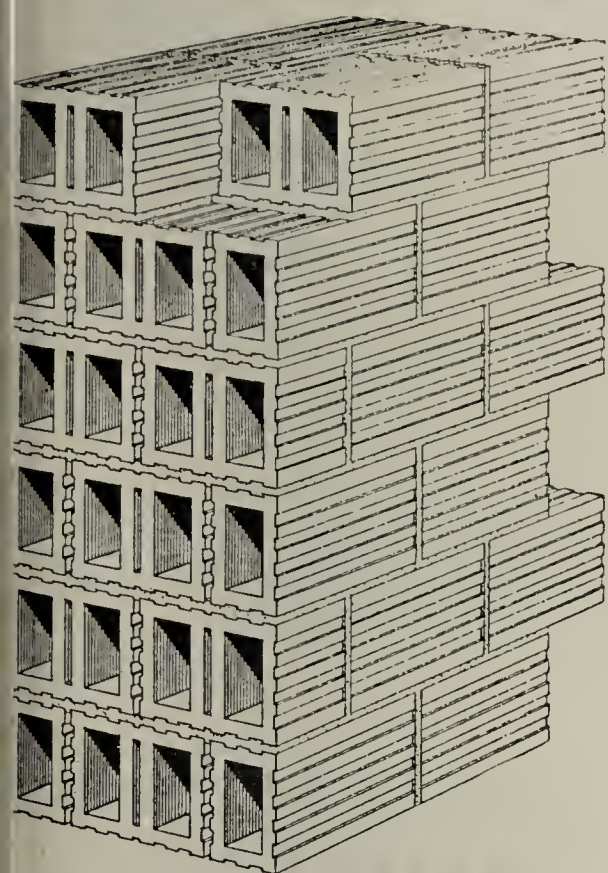
"The Patent Office in all its tribunals rejected the application for patent of Mr. Heath, but the findings of the Patent Office were reversed by the Court of Appeals of the District of Columbia. However, the conclusions of the latter court were found in error. Their opinion shows that they believed Heath to be the first to introduce said feature in wall construction, of leaving voids or open spaces between the ends of the adjacent blocks in the horizontal courses; and the Court of Appeals were of the opinion that such feature would modify a construction such as represented, for example, by the Denison block, in which the patent drawing shows said spaces to be filled with mortar.



This Drawing Shows a Twelve Inch Hollow Tile Wall Construction Which Type it is Claimed is Patentable.

"But the evidence on the trial of said case in the District Court developed, and Mr. Heath also conceded, that said

Court of Appeals were in error in their understanding that Heath was the first to leave said spaces open in wall construction; and it had to be conceded by the plaintiff that such construction was well known to the art and used by the



Sixteen Inch Hollow Tile Wall Construction Showing Alignment of Vertical Webs, Which Construction, Not Obtainable With Other Types of Hollow Tile, it is Claimed is Patentable.

any mechanic skilled in the art, and dismissed the suit brought on the patent."

In the accompanying illustrations are shown the construction of hollow tile walls concerning which Frederick Heath claims to have patent rights with the exception of the eight-inch wall which he admits is not patentable. The twelve, sixteen and twenty-inch walls shown, however, are said to be covered by the patents which he now holds and others for which application has been made.

TO BE CARRIED TO SUPREME COURT

This case has created considerable interest on the Pacific Coast and is destined to remain in the limelight for some time, since Mr. Heath stated to the editor of *Brick and Clay Record* that he expects to appeal his case to the next highest court and to continue the fight until it reaches the Supreme Court if necessary. He is about to open an office in Chicago and has engaged Carl C. Walters as his sales manager with a view toward putting on the market in a very active way Heath unit tile.



Columbus "Own Your Own Home" Workers Busy

The Columbus "Own Your Own Home" campaign was started the latter part of April in the Buckeye capital with the backing of more than a score of civic and business organizations. The movement is supported by the prominent business interests of Columbus and already there are signs of results, altho the campaign is not yet fairly under way.

The organization was effected by a meeting of representatives of business and civic organizations at the Chamber of Commerce recently, when a finance committee of seven was named to have charge of the campaign. The commit-

tee consists of J. C. McMaster, chairman, George W. Bright, W. H. Hoagland, John J. Stoddart, C. E. Richards, John R. Gobey and King Thompson. The chairman represents contractors and builders; George W. Bright represents banking interests; John J. Stoddart represents building and loan associations; W. H. Hoagland represents manufacturers and jobbers of brick and other clay products; John R. Gobey represents lumber interests; King Thompson represents real estate interests, while C. E. Richards represents architects.

Kline L. Roberts of a local advertising concern has been named director of the campaign and will look after the publicity.

It is pointed out that there is now a need of 2,500 homes in the Buckeye capital. This is due largely to the natural increase in the population and the fact that little home building has been done during the past two years. Many new manufacturing enterprises are coming to Columbus which will increase the demand for homes.

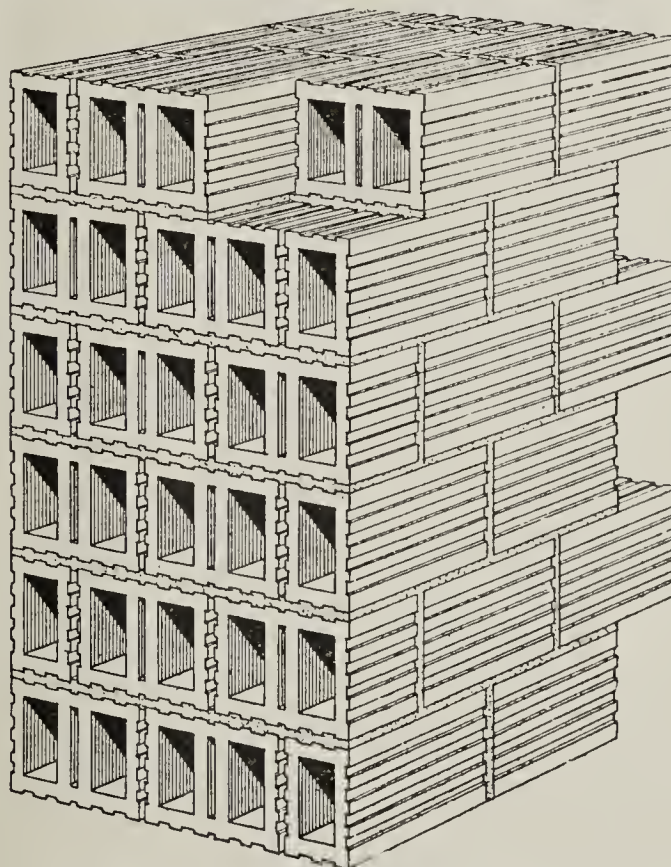
The organizations cooperating in the movement are: Builders' and Traders' Exchange; Columbus Lumbermen's Club; Columbus Chamber of Commerce; Columbus Face Brick Association; Real Estate Board; Fire Insurance Club; Electrical Contractors' Association; Columbus Clearing House; Columbus Building and Loan Association; Columbus Retail Merchants' Association; Columbus Institute of Architects; Columbus Manufacturers' and Jobbers' Association; Columbus Contractors' Association, and many others.

The campaign will be civic in character and the general committee will have representatives from every business and civic organization in the city. The advisory committee of seventeen represents every line interested in building and construction work.



Mississippi Brick Manufacturers Convene

On Thursday, March 13, the first annual meeting of the Mississippi Brick Makers' Association was held, at the Gil-



This Twenty Inch Wall is Also Claimed to be Patentable. The Standard Block Equals One-Third of a Cubic Foot and is Equivalent to Six Brick.

mer Hotel, Columbus, Miss. The meeting was called to order promptly at nine o'clock in the morning, President

W. N. Puckett presiding. President Puckett outlined the objects and ambitions of the association, which was formally organized in Meridian several months ago, and threw into the meeting, right from the beginning, a spirit of cooperation and mutual confidence that prevailed until the end.

In a few well chosen and friendly words, Mr. Ira Gaston welcomed the members to Columbus. P. L. Gaston, of Hattiesburg, responded in a clever vein to the splendid welcome from the good people of Columbus.

The financial report of the secretary, showing receipts and disbursements and a good balance on hand was then read and approved.

An interesting report was made by J. T. Osborne and P. L. Gaston, on their trip to Chicago to attend the meeting of the Common Brick Manufacturers' Association of America. The discussion following these reports was interesting and educational and on motion, it was found to be the unanimous opinion of those present that all brick makers should join the national association.

After discussion, a motion was made and carried making the standard size of manufactured common brick $8 \times 2\frac{1}{4} \times 3\frac{3}{4}$.

All the old officers were elected for another year and then

at two o'clock, the members assembled at a local cafe, where they were the guests of the citizens of Columbus at a luncheon. Dr. Lipscombe presided as toastmaster and some splendid talks were made. President Whitfield, of the college, was present and made an encouraging forecast for the future.

After the luncheon a visit was made to the Columbus brick plant, which was a great treat to the brick makers, as Columbus is the largest brick manufacturing center in Mississippi. Two large plants there have a capacity of more than 100,000 brick daily.

Among the members present at this meeting were:

H. C. Miller, Kosciusko, Miss.
L. H. Tubb, Amory, Miss.
J. T. Earhart, J. T. Earhart Brick Co., Louisville, Miss.
C. S. Edminston, Quitman, Miss., and American Brick & Tile Co., Waynesboro, Miss.
J. T. Osborne, and C. L. Archer, Corinth (Miss.) Brick Co.
A. F. Simmons and W. T. Barnett, Booneville (Miss.) Brick & Tile Co.
L. C. Cline, Macon, Miss.
Ferd. V. Becker, Brookhaven (Miss.) Pressed Brick & Mfg. Co.
Roger Frierwood, Success Brick & Tile Co., Greenwood, Miss.
R. W. Bullard, Bullard Brick Co., Jackson, Miss.
H. T. Finch, Currie-Finch Brick Co., Jackson, Miss.
P. L. Gaston, Riverside Brick & Mfg. Co., Hattiesburg, Miss.
B. A. Schneider, Laurel (Miss.) Brick Works.
M. M. Lockard, Lockard Brick Works, Meridian, Miss.



ILLINOIS PRICE INVESTIGATION COMMITTEE COMPLETES HEARINGS—SEE NO HOPE *for* REDUCTION *in* PRICES

NOW that the investigation of the special committee from the Illinois State Legislature with regard to the price of building materials passed into history on April 19, it may be interesting and enlightening, especially to manufacturers in other parts of the United States, to review in a brief manner the activities of this price inquiry body.

The committee, of which Senator John Dailey, of Peoria, was chairman, began its sessions on March 21 at the Hotel La Salle, Chicago. Before leaving Springfield, Senator Dailey told of the objects of the inquiry.

"We are after the truth, the whole truth, and nothing but the truth, and we are in condition, legally and otherwise, to get just that—the truth. We accuse no one as we start our work, but we are going to get the facts. If there has been attempted profiteering, we want to know and the people of Illinois are entitled to know. If present quoted prices are justifiable, the alleged 'trust' should welcome the inquiry."

LUMBERMAN SAYS "NO REDUCTION"

Chris. Wiehe, secretary of the Edward Hines Lumber Co., which is said to control thirty per cent. of the lumber business in Chicago, testified that there was no hope of immediate lowering of lumber prices, which had been caused by the expensive labor in lumbering districts. He denied that there was any intention on the part of lumber dealers to force prices higher than they are now.

PAVING BRICKMAKER EXPLAINS PRESENT PRICES

R. H. Green, of the Streator (Ill.) Clay Manufacturing Co., makers of paving brick, testified:

"If the state would ask a maximum production of brick to build roads the prices would come down," said Mr. Green. "The cement men have conducted a nation-wide campaign on behalf of their product and against brick."

Mr. Green stated that the present prices on brick are

twenty-five to thirty per cent. higher than pre-war prices.

"The price is justified by present manufacturing conditions," he said. "Our firm, for instance, could turn out eighteen million brick a year at minimum speed. We are down to one-half that because of a raise of twenty-five per cent. in wages and twenty-five per cent. in freight rates and a lowering of fifty per cent. in labor efficiency."

This testimony was given on March 28.

TELLS COMMITTEE HOW TO STIMULATE BUILDING

Wm. Schlake, president of the Illinois Brick Co., Chicago, was also a witness. He said that his plants had all been idle since September, 1918. One of the plants started up a few days previous. That was on March 28.

The price of common building brick, he said, had increased seventy per cent. over pre-war prices. This was due, he explained, to increased cost of labor, freight, and fuel. The labor wage schedule had increased forty per cent. Brick that used to sell for \$7 a thousand now costs the contractors \$12 delivered on the job in Chicago.

"Do you think there will be any material reduction in the near future?" he was asked.

"No."

"Is there any combination of brick men to hold up prices?"

"Well, the Department of Commerce of the United States Government called on us recently to agree on a maximum price. This was fixed at \$12."

"What can the state do to stimulate building?"

"Hurry up with this investigation."

"Do you think there is any combination of material men for the purpose of profiteering?"

"I have no reason to think so. We will have to spurt some to make any money on present prices."

"How is the builder at present prices going to make any money?"

"Increase his rents."

FACE BRICK DEALER URGES CONFIDENCE

Bert T. Wheeler, of the Kimbell-Hill Brick Co., dealers in face brick, Chicago, was a witness. He said the price of his product had increased forty per cent.

"What is necessary in order to stimulate building?" he was asked.

"Confidence in these prices on the part of the public. We need to make things steady, to show prices are reasonable and they will not go down."

"Can you see any necessity for the Illinois Brick Co. increasing its prices seventy per cent. and your company increasing only forty per cent.?"

The witness thought that common brick might have been too cheap before the war.

RAPS CEMENT ROADS

"It has been testified here," said Chairman Dailey, "that a good road may be made out of brick; that brick does not need a concrete foundation. This information is very important to the highway department of the state. Under the sixty million dollar road bond issue it has been assumed that we would build concrete roads and that we would have to pay the price the cement men decided to charge. This testimony shows that there is a big upkeep cost to this kind of a road and opens the way for a new deal for the state."

Other brick men testified among whom were Charles H. Alsip, Calumet Brick Co., Joseph Sidlo, cashier, and Frank C. Layer, president and general manager, of the Builders Brick Co., Paul Triebull, Acme Brick Co., John J. Burk, Burk Brick Co., and B. F. Weber, president, and Charles A. Shank, traffic manager, of the National Brick Co.

SUGGESTS TEN DOLLAR PRICE ON BRICK

"If the brick men of Chicago will meet this commission half way," said Senator Dailey, "I believe conditions here can be remedied. We are willing to discontinue this investigation if the brick men will agree to reduce the price from \$12 to \$10. And further, the commission will proclaim to the state that \$10 is a fair price."

Cement manufacturers were also given a grilling. The committee sprung them a surprise in the form of a statement that cement could be manufactured in Illinois for \$1.25 a barrel. This figure was taken from a report made to Governor Lowden by a special engineer who made an extensive investigation. Figures presented to the committee by the Lehigh and Marquette portland cement companies denied that it was possible to manufacture cement at this figure.

COMMITTEE REPORTS NO PROGRESS

The committee concluded its session in Chicago on April 19. As to the possibility of the committee investigation resulting in lowering of prices, Chairman Dailey would not hazard a guess.

"The manufacturers of cement, building stone, lumber and brick have come in here with their cost sheets, all duly audited and have made sworn statements showing that their profits are not excessive," he said. "Some of them have even lost money. I do not see what can be done in the face of this testimony."

* * *

Texas Building Material Prices More Likely to Increase than to Fall .

Instead of there being any early fall in prices of brick and other building materials in Texas, it is the belief of manufacturers and dealers that prices may increase. In discussing the subject J. Howard Payne, manager of a local

brick manufacturing plant and president of the Dallas Advertising League, said:

"Government figures show that building material which could be bought for \$1 three years ago now costs \$1.47, while commodities in general went up from \$1 to \$1.95 in the same time.

"From this it is obvious that general commodities can come down 25 per cent. and still be above the increase in building material.

"The sudden war-created industrial building development that caused a demand for quick production with bonus wages and bonus prices to the manufacturers did not exist in the Southwest as elsewhere. These conditions caused an inflation of the prices in the North and East, while in the Southwest they increased only slightly, because of higher wages and increased freight rates.

"The common building brick is selling in Texas for \$13 a thousand and no reduction can be made without a loss to the manufacturer. The volume of manufacture and the concentrated need of material in the North and East, which permits a lower price, does not exist in Texas and the surrounding states.

"Manufacturers, dealers and jobbers in building materials took up this matter in conference recently at Waco and a free and frank discussion was held, but it was decided no reduction could be made."

W. T. Harris, vice-president of a local lumber company, said: "It is my opinion that the price of lumber will not come down, but will probably go still higher. The demand for yellow pine, the product of East and Southeast Texas and Louisiana, is increasing greatly, because of the building activities all over the United States. Added to this demand, great quantities of lumber are being exported to Mexico and Cuba, and in a very short time we will be shipping lumber to Europe to be used in rebuilding the devastated territories. With this increasing demand and with wages continuing high, I can see no hope for a reduction in the price of lumber."

Officials of other building material concerns expressed similar opinions.

* * *

Louisville Building Projects Forging Ahead

A number of excellent brick contracts are now in sight in some of the projects in Louisville, Ky. Plans for an addition to the Inter-Southern Building have about been completed, and will call for a large quantity of buff face brick. The Paul Jones Building recently changed hands, and M. H. Lewis, head of the syndicate which purchased it, has plans for an addition and for several additional stories. The National Bank of Kentucky is expected to close some sort of a deal for a fine banking office shortly. An option has been given on property on Jefferson Street, facing the Court House, and there are several rumors out relative to erection of a large office and bank building.

Owners of the Speed Building, on Fourth Street, in constructing the original building installed steel work to carry several additional floors, and may go ahead with construction at an early date. This building is of buff tile. The Speed interests also have a large vacant lot on Third Street, upon which they plan to build eventually.

The transfer of several pieces of property at Fourth and Broadway to a syndicate headed by T. M. Brown and J. G. Brown, lumbermen of Louisville, has given rise to a rumor that the Statler Hotel interests, of Cleveland, Ohio, plan a new hotel on that corner. There are also rumors to the effect that the Seelbach Hotel interests plan to erect a hotel on an opposite corner. The Watterson Hotel, Louis-

ville, is endeavoring to secure an additional building for expansion, and if unsuccessful may build an annex at the rear.

The Jones-Dabney Varnish Co. is starting work on a good plant at Eleventh and Hill Streets, which will require fire and common brick in the varnish fires if nothing else. B. F. Avery & Sons are erecting two large additions to their plow factory. The Kentucky Wagon Mfg. Co. is discussing plans



Makes Tests on Kentucky Coal

James T. Howington, manager of the Coral Ridge Clay Products Co., operating in Jefferson County, and with offices at Louisville, Ky., is a man who believes that figures talk much louder than assertions. Mr. Howington has heard a great many discussions relative to the merits of certain grades of both Eastern and Western Kentucky coal as well as Virginia coal.

After considering the various costs for grades, and from various districts, plus the freights from these districts, and the alleged heat units of the coals from such districts, he is making a number of tests on the various grades before tying up on any contracts. Close figures are being kept on all coal used, and the ash resulting, the temperatures at which the kilns are kept, the quality of the results secured, etc. All coal going into the kilns is being weighed, and resulting ash is also being weighed. After comparing temperature records along with those of coal, ash and results, Mr. Howington feels that he will know thoroly what he is doing. The present dull spell in the brick business enables him to make far more thoro tests than would be possible during a rush period.

Coal is one of the most vital factors in the brick making business, especially since coal prices soared early in the war. There is no prospect of coal prices going down for some time to come, as freight rates are firm; wages paid miners are not only firm, but standing a chance of being increased; and general costs of production are holding. Being unable to secure cheaper coal it is necessary to get everything out of the coal possible, and get the best adapted coal. That is what Mr. Howington is figuring on.



Sand Lime Brick in 1918

A report on the production of sand-lime brick in 1918, prepared by Jefferson Middleton, of the United States Geological Survey, Department of the Interior, now in press, shows that this industry, in common with other building-material industries, suffered a decided setback last year. The production was 98,399,000 brick, valued at \$883,929, a decrease in output of 89,147,000 brick, or 48 per cent., and in value of \$536,401, or 38 per cent., compared with 1917. Tho the decrease in output is large, it is not less than the decrease in general building, and it shows that the sand-lime brick industry was getting its share of business in 1918, altho many sand-lime brick plants were so far away from Government buildings which were then under construction that they were unable to compete with nearer plants that could furnish other kinds of building material. The output in 1918 was the smallest since 1905, and was 128,945,000 brick, or 57 per cent. less than that in 1916, the year of greatest production. The principal causes of the decrease were the scarcity and the high cost of material and labor, the difficulty of obtaining transportation, and the governmental restriction on the use of fuel and on building operations.

Sand-lime brick was marketed by 42 operators in 18 states in 1918, a decrease of 5 operators and 1 state—Kentucky, compared with 1917. Michigan in 1918, as for many years, was the leading state and reported an output of 22,564,000 brick, valued at \$198,633, or nearly one-fourth of the total output and value. The output in this state in 1918 decreased 25,434,000 brick, or 53 per cent. and the value decreased \$172,090, or 46 per cent., compared with 1917. Minnesota, which produced 12,255,000 brick, valued at \$90,212, was second in output but third in value. The average price per thousand of common sand-lime brick in 1918 was \$8.94, compared with \$7.54 in 1917; that of face brick was \$11.35, compared with \$9.36 in 1917.



Object to Government Use of Adobe Brick

The Bricklayers' Union of El Paso, Tex., has adopted resolutions protesting against the plan of the United States government to use adobe brick for the construction of buildings at Fort Bliss and other military stations along the border. At the meeting at which the matter was considered it was pointed out that there are brick-making plants in El Paso which are turning out excellent products, that adobe is unhealthful, and that American labor would be replaced by Indians or Mexicans if adobe is used.

According to the bricklayers it has been planned to use 375,000 adobe brick in construction work at Fort Bliss at an approximate cost of \$40 a thousand. This is much higher than clay brick and the mud product would replace 3,750,000 brick.

Reports received by the bricklayers are that the government would supply the straw for the adobe, and would haul the finished product from a distance of 12 miles.

"That adobe is considered unhealthful is indicated by the city campaign against such structures at the smelter in which many were wrecked, and the army orders that have come from time to time to tear down such buildings," said W. J. Moran, a member of the local union. "Besides this, we hope the government will not overlook the fact that we have facilities here for manufacturing excellent brick at a fair price."



Prospects for American Business in Europe Only Fair

Additional light on the material needs of foreign countries as a result of the war was shed recently by W. J. Austin, of the Austin Co. following his return from a three-months tour of France, England and Italy. Mr. Austin arrived in Cleveland, Ohio, the last week of April. His opinion is that the prospects for American business in Europe are only fair, and in addresses before civic bodies in this part of the country he will advise that American business turn its attention to developing the home trade and that of South America. His chief reasons for this are that reconstruction work in France, the country principally devastated by the war, is resuming slowly, because much time is needed for the settlement of individual claims for indemnities. He points out that France has placed a ban on the import of articles it can manufacture itself, in order that its own industries may get going again, and also give employment to returning soldiers. A ban on both imports and exports is in effect in Italy, and England has a ban on imports, altho its industry expanded during the war and it is in better position to meet its own needs, he points out.

COMMON BRICK MANUFACTURERS ASSOCIATION ENGAGES LIVE-WIRE SECRETARY-MANAGER

AN EVENT of considerable significance with regard to the progress and prosperity of the common brick manufacturing branch of the clay products industry is that of the appointment of Ralph P. Stoddard as secretary-manager of the Common Brick Manufacturers' Association of America.

Ralph Stoddard, of Cleveland, is so well known it seems like repetition to say anything concerning his exceedingly fine record in association work not only in the clay products industry but also in the building supply dealer field.

However, in these busy days events, which formerly covered a week, are now crowded in a day. Facts and persons are easily lost sight of and for this reason it is apropos to recall the fact that the clay working fraternity first heard of Mr. Stoddard in connection with a remarkable publicity campaign conducted by the Cleveland Face Brick Association which later developed into the Society Advocating Fire Elimination, which was formed in the summer of 1914. The Society Advocating Fire Elimination and its numerous activities are well known to clay products manufacturers, so no mention need be made at the present time of this particular organization. However, it might be said in passing, that the Society ultimately fostered the eminently successful Complete Building Show held in February of 1916 in Cleveland.

In addition to secretary of the Society Advocating Fire Elimination, associate editor of "Construction," a magazine advocating the consistent use of fire proofing materials and protective devices, president of the East Shore Country Club, and a dozen other things, Mr. Stoddard was secretary of the Cleveland Board of Material Dealers, on which he

did some very fine work. His record in that organization no doubt led to his appointment as assistant to the president of the Ohio Builders Supply Association in the summer of 1917, which office he has practically held up to the present time. The Ohio Builders Supply Association, which is an organization of masons' material dealers, was one of the largest in the United States and has had a very successful career.

Mr. Stoddard, however, has now been called to one of the most important, if not the most vital secretarial position in the clay products manufacturing industry. He comes to his office as secretary-manager of the Common Brick Manufacturers' Association of America with a wealth of experience in association work. There is no question but that the association will grow and expand under his administration of the secretary's office.

One of the first things to be done in connection with the work of the association is the preparation, without delay, of suitable literature on common brick that can be distributed among architects, contractors and consumers, telling of the many reasons for using common brick in building construction. While the association is planning to spend many thousands of dollars for space in advertising mediums, the full benefit of this advertising cannot be realized unless there is some adequate literature with which to answer inquiries. Mr. Stoddard's experience with the S. A. F. E. is going to help him considerably in getting out this much-needed literature.

Mr. Stoddard will move to Chicago, where association headquarters are maintained. No office has as yet been se-

Ralph P. Stoddard, the Newly Appointed Secretary-Manager of the Common Brick Manufacturers Association of America, is Already at Work at His Desk in Chicago. In An Association As Young and with Such Possibilities As the Common Brick Organization Has, It is Reasonable That There Should Be a Tremendous Amount of Work To Be Done in the Immediate Future. Mr. Stoddard Will Be Fully Able to Meet the Requirements of the Situation. He is Accustomed to Hard Work. It is Said, in the Most Liberal Estimates, That No More Than Fifteen Per Cent. of the Buildings Erected Annually in the United States Are of Brick. Now, With the New, Live-Wire Secretary-Manager on the Job, Those Who Furnish the Material for the Other Eighty-five Per Cent. Better Watch Out.



lected but it is expected that permanent quarters will be opened without delay.

Wm. Schlake is president of the association, Charles H. Bryan, vice-president, and Ernest S. Barkwill treasurer. C. P. Mertens, who has been acting as temporary secretary, deserves great credit for the painstaking work which he has done. The association owes him, without question, a vote of gratitude.



A. C. S. Announces Summer Meeting Dates

Announcement has just been received that it has been decided by the Board of Trustees of the American Ceramic Society, to hold the annual summer meeting during the week of August 4 this year. The members will assemble at Buffalo, N. Y. and after carrying out a program at that point and Niagara Falls, they will proceed by boat to Cleveland, Ohio, where the trip will wind up by a visit to plants in that district.

The territory which is to be covered according to the above plans includes plants manufacturing every type of ceramic product. In the Buffalo and Niagara Falls district are located such plants as the Carborundum Co. and the Norton Co. manufacturers of abrasives, special refractories, etc., besides other plants manufacturing carbon electrodes, glass and clay products. A pleasant feature of the trip will be a visit to the Niagara Falls and a boat trip to Cleveland on the beautiful Lake Erie. At Cleveland may be found a number of the most modern factories turning out such products as sewer pipe, common brick, face brick, hollow tile and other ware. Just below Cleveland, at Bedford, Ohio is located the new and modern establishment of the Bedford China Co. where many new innovations in the manufacture of white-ware products are to be seen. At Elyria, Ohio which is but a short distance from Cleveland is located the well known factory of the Elyria Enameled Products Co.

Detailed announcements will be given out later as to this summer trip which promises to exceed all others in regard to pleasure, points of scenic interest and types of plants to be visited.



A New Clay Brick Substitute

First public announcement of an entirely new brick, which will be introduced to the trade in different parts of the country early in May, was made the week ending May 3, at Cleveland, Ohio, when the Better Brick Co. of Cleveland, subsidiary of the Better Machine Sales Co., of the same city, started the manufacture of slag brick and other slag products. It is the claim of the backers of the enterprise that the process will revolutionize the brick industry.

The chief feature of the product, according to Richard Ryan, secretary of the Cleveland organization, is that the cost of production and consequently the sale price, will be half of that of the average brick. This will be made possible, because all brick plants, wherever located in the country, will be built adjacent to blast furnaces. While Cleveland is ready to produce this new material for building purposes, other cities are nearly so, plants having been established in Detroit, Chicago, Buffalo, Pittsburgh, McKeesport, Toledo and other points where there are blast furnaces.

The capacity of each of these plants, with one brick making machine will be 65,000 brick a day, and this capacity will be increased by the addition of more machines in each plant as the output and demand warrant.

In construction, the brick are claimed to have all the

characteristics of regulation face and common brick—smoothness of texture, crushing strength, waterproof, and retention of color. The color process, like most of the processes of manufacture, are held to be secret. The color will be imbedded into the face of the brick one quarter of an inch deep. Face brick principally will be made at first.

Several other products will be turned out by the same processes, among them being slag and asphalt fence posts, that are said to take the largest nails made, without cracking, and said to be capable of holding the nails so tightly that they may be cut off, but cannot be pulled out. It is proposed to make slag and asphalt brick, slag and cement brick, and slag fire brick.

The Better Brick Co. of Cleveland, like the other similar organizations identified with the machinery producing concern, has been organized under the common law by N. C. Criswell, 429 Scofield Building, which will be the headquarters of the Cleveland district organization. Mr. Criswell is treasurer of the Cleveland company. Other officers are: president, William Kunz; vice-president, M. D. Criswell; secretary, Richard Ryan. The general manager and director of production will be Daniel Gruber. All are Cleveland men.

The machines which will make the brick have been patented, according to Mr. Ryan, but the numerous processes have not, but are being kept secret. According to Mr. Ryan all the different products have been put thru the severest tests before manufacture has started, and the products will bear any criticism, from whatever angle.



A. C. S. Northern Ohio Section Meets

The fifth meeting of the Northern Ohio Section of the American Ceramic Society was held at the Portage Hotel, Akron, Ohio, on April 28.

In the morning a visit was made to the plant of the Goodyear Tire & Rubber Co. After lunch at the hotel, a trip was made thru Plant No. 1 of the Robinson Clay Products Co. This plant is devoted to the manufacturing of stoneware, including large and intricate chemical shapes.

A short business meeting preceded the program. The first paper of the afternoon was given by Prof. Hewitt Wilson, Ohio State University, on "Glaze Studies." This was followed by a talk on "The Present Trend in Porcelain Manufacture," by E. T. Montgomery, of the Jeffrey-Dewitt Co., Detroit, Mich. Will P. Blair, secretary of the National Paving Brick Manufacturers' Association gave a very interesting talk dealing with present-day requirements for both art and utility in all kinds of brick construction. The program closed with an illustrated talk by E. P. Poste, Elyria Enameled Products Co., Elyria, Ohio, on the "Manufacture of Enameled Ware."

The attendance was good in spite of the bad weather.



McDonald Goes to Church

A. P. McDonald, sales manager for the P. Bannon Pipe Co., of Louisville, Ky., recently went to church. There is nothing unusual about Mr. McDonald having gone to church, as he believes in the principle, but he went to church on a week day, and while there were no services being held. Furthermore he slept in the church, and he was perfectly sober at the time. In fact he was in dry territory, and one that is zealously guarded. He did not transgress, and he paid real money for the privilege of sleeping in a church, in which regular services are held during some parts of the week.

To make a long story short, Mr. McDonald recently went

to Bowling Green on business, and failed to make a reservation. He forgot that Bowling Green is the heart of the western Kentucky oil boom, and that conditions there have reached a point where tents are commonly used, and where many stables have been converted into bunk houses. His business held him overnight, and he was one of a number who secured a regular cot in a church overnight.

The church in question is endeavoring to raise money to pay off a debt. At the same time it is endeavoring to be a good samaritan to those who reach the city, and who are likely to be arrested for sleeping on the curbs, or in the parks. It made arrangements with the hotels to take care of a part of the overflow from the hostels, and is providing good sleeping quarters and keeping visitors in out of the weather.

Mr. McDonald believes that he is one of the few brick men in the country who has experienced the sensation of awaking in the morning under a high church dome. It was quite some little experience, and had sleeping in the open beat a thousand ways from Sunday, according to Mr. McDonald. However, the next time he makes Bowling Green, he will endeavor to secure hotel accommodations in advance.



Nation-Wide Campaign for Better Packing and Marking of Express Shipments

A nation-wide campaign to put an end to the waste attributed to inadequate packing, wrapping and marking of express shipments has been inaugurated by the American Railway Express Co., which is handling the express business on all the railroads of the country. It is expected that by remedying this evil, it will be possible to bring about a marked improvement of the express service thruout the country.

A "Better Service Campaign," the success of which will depend upon the co-operation of the shipping public, was started on February 10, in every city and town in the country. No new packing or marking rules have been adopted for the campaign, but express drivers and receiving clerks in the larger cities, as well as express agents in the smaller points, have been instructed hereafter to request that the rules already in force, be more carefully observed.

The Better Packing, Better Marking drive is designed to be of as much interest and value to the shipper as to the carrier, for it is a matter of dollars and cents to both. By removing the causes which are responsible for many shipments being lost or damaged in transit, it is hoped that a great reduction in the number of express claims filed, will be accomplished. Claims are an incubus to the transportation business and bring much dissatisfaction to the shipper, the consignee and the carrier, with no gain to any of them.

"Start Express Shipments Right," is the keynote of the campaign. The executives of the many trades and industries utilizing the express service have been asked to aid in the movement, by taking a personal interest in their own shipping departments, and installing better methods wherever it is found necessary. The use of a poor quality of paper or twine, an insufficient quantity of wrapping material, and incorrect and careless addressing have been found to be responsible for many shipments going astray. Other causes for this condition are said to be the employment of old or second-hand cartons or other containers which cannot stand the wear of transit, and result in exposure of the contents, making possible the damage to or pilfering of the goods thus exposed. Old marks cause confusion and mistakes in delivery.

But not all of the fault is laid at the door of the shipper.

One phase of the campaign is concerned with the effort to prevent rough handling, mis-routing or other deviations from correct express methods after the consignments leave the hands of shippers and are turned over to the express company. At the same time, there will be closer supervision of the work of express employees in all express offices and terminals.

A series of weekly meetings of the expressmen in every city will give the supervising officers an opportunity to impress upon their local forces the purposes of the drive. Local campaign committees will be appointed to keep before their co-workers the ideals of service and to secure the co-operation and interests of shippers by explaining to them how they can, in their own particular lines, aid in the improvement of the express service.

A determined effort will be made during the campaign to eradicate what is known as the "No Mark" evil. From July 1 to November 30 of last year, 127,859 shipments, an average of about 25,500 a month, were turned over to the "No Mark" bureaus maintained by the company, because all means of identification of either shippers or consignees had been lost, and delivery, except in a few cases, made impossible. Personal baggage, hardware and automobile tires comprise the largest proportion of the "No Mark" shipments, which are attributed largely to the failure of the shippers to mark clearly and to pack their goods substantially. With the help of the shippers and thru the influence of the campaign, the express company hopes to solve this problem.



Conditions in the Magnesite Market

Conditions remain for the most part, unchanged in the magnesite industry. The great bulk of calcined magnesite is used for refractory purposes in the form of so-called "dead-burned" magnesite. Caustic magnesite which is not burned to so great a degree as that used in open-hearth steel manufacture is used principally for flooring purposes. Other uses for magnesite, or magnesite products are in the manufacture of insulating or non-conducting material and for chemical and medicinal purposes.

The quiet condition in the steel and building trades has been reflected naturally in the magnesite business, and the larger consumers report operations at only fractional capacity. About the middle of March the price of magnesite brick dropped from \$90 to \$70 per net ton, and a drop from \$37.00 to \$32.50 per net ton for dead-burned magnesite at Washington points was reported.

Among the imports entered for consumption during the week of March 17 were 436 bags, 65,400 pounds, from Trieste. Tho the total imports amounted to only 32.7 tons, they are of interest considering the source of the material.

In 1918 the imports of crude magnesite were 54,310 short tons or an average of 453 tons per month; the imports of calcined magnesite were 19,049 short tons or an average of 1,587 tons per month. In 1919 the imports have been as follows, short tons: Crude—January, none; February, 95; March 1 to 15, none. Calcined—January, 939; February, 748; March 1 to 15, 34. The rate of importation during the first two months of 1919 shows a considerable falling off, as compared with the average monthly imports in 1918.



A fire of unknown origin destroyed the plant of the Buckeye Pottery Co., of Macomb, Ill., recently, causing a loss of about \$30,000. It is planned to rebuild the plant at once.

RAW MATERIAL *and* ASH HANDLING EQUIPMENT

While This, Part III of the Ninth Article in the Series, Refers More Particularly to Power Plant Requirements, the Principles Are Also Applicable to General Clay Plant Conditions

By Robert June, M. E.

IN OUR PRECEDING DISCUSSIONS we have considered the advantage of coal and ash handling equipment from the standpoint of elimination of uncertain labor element, increase of coal storage capacity, and reduction of handling costs, and have called attention to the necessity for expert advice and detailed study in the selection of methods and equipment for any particular plant.

We have seen that the fundamental requirement of any proposed installation is that it shall satisfy the $O M I < H$ formula; that is, that the operating costs O , plus maintenance costs, M , plus interest on money invested, I , of the system which it is planned to introduce, shall be less than the cost, H , of doing the same work by hand, or by some other system. We have indicated that it was generally preferable, tho not always necessary, to divorce the coal and ash handling on account of the destructive abrasive qualities of the ash.

Taking up the various types of equipment, we have considered spiral, flight and scraper conveyors, aprons and v-buckets, and pivoted overlapping dump buckets, finding that the latter, altho the most expensive system to install of any of the chain types, is generally regarded by power plant specialists, in both the operating and consulting fields, as the most economical for medium and large sized boiler plants.

Leaving the chain group we now come to continuous belt conveyors.

CONTINUOUS BELT CONVEYORS

Here we have a type of equipment possessing the distinct advantage over any previously considered, of being

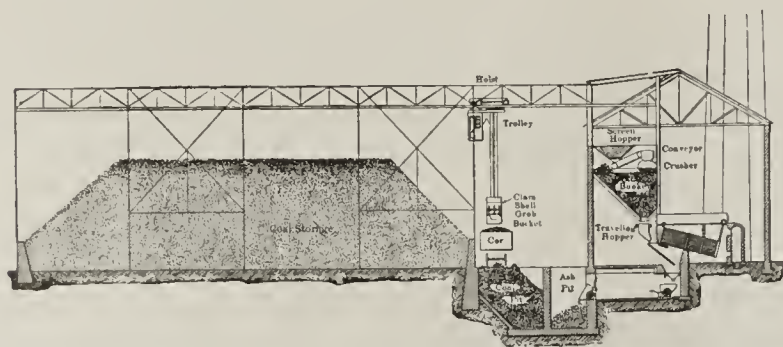


Fig. 1. Installation of Telepherase System for Handling Coal and Ash at Scioto Traction Co.

driven from any point in its length. The importance of this feature will depend upon individual conditions, but it should never be overlooked in planning a system for an existing plant. Further notable advantages are the simplicity of drive—a motor with connecting belt to one of the pulleys

generally sufficing; the almost unlimited capacity—the width of the belt depending only upon sufficient fiber stress in the materials of which it is composed; and the flexibility of the system. Conveyors 700 or 800 feet from center to center, and capable of handling 400 to 500 tons per hour are in successful use. The angle of repose of the material is the only limiting factor to the inclinations at which belt conveyors may be operated.

In the Robins belt conveyor, which is typical of the best design and construction practice in this type, the material is discharged where needed by automatic tripping devices. The trippers consist essentially of two pulleys, one above and slightly ahead of the other, the belt running over the upper and under the lower one, the course of the belt resembling the letter S. The material is discharged into chutes on the first downward turn of the belt. The trippers may be movable or fixed, single or in series. Movable trippers are used when it is desired to discharge the load evenly along the entire length, as for instance, in a continuous row of bins, while fixed trippers are employed where the load is to be discharged at certain and somewhat separated points. The movable trippers are made in two forms, "hand-driven" and "automatic." In the former they are moved from point to point by means of a hand crank. The "automatic" tripper is propelled by the conveying belt thru the medium of gearing. It reverses its direction automatically at either end of the run and travels back and forth continuously distributing its load. It can be stopped, reversed, or made stationary at will.

POWER FOR BELT CONVEYORS

As the material is actually carried it is possible to operate belt conveyors at much higher speeds than are possible with drags or any other types of carrying conveyors. The capacity of belts is therefore relatively much greater than those of other types of conveyors. It is the writer's belief—a belief concurred in by many engineers, but not, be it noted, by all—that belt conveyors should never, under any circumstances, be used for the handling of ashes, for the following reasons:

1. High initial cost of installation.
2. Necessity for thoroly quenching ashes before placing on conveyor to avoid destruction of belt by heat.
3. Rapid destruction of belt, caused by abrasive nature of ash. There is an extremely good possibility of having to replace belts used for conveying ashes, every six months, thus running the cost of maintenance up beyond all reason.

The power required to operate belt conveyors is stated by C. K. Baldwin in the following empirical formulas:

For level conveyors: Hp. equals $\frac{CTL}{1000}$.

For inclined conveyors: Hp. equals $\frac{CTL}{1000}$ plus $\frac{TH}{1000}$.

C equals constant as given in Table I.
T equals load in tons (2,000 lbs.) per hour.
L equals length of conveyors between centers.
H equals vertical lift of material.

TABLE I							
Width of belt.....	12	16	20	24	28	32	36
Constant C.....	0.234	0.220	0.205	0.195	0.175	0.163	0.157
Additional hp. re- quired for each tripper	0.50	0.75	1.25	1.50	2.25	2.75	3.25

TABLE II						
Additional power to be added to results of formula for friction of conveyor ends and driver.						
Length of conveyor.....	25 ft.	50 ft.	75 ft.	100 ft.	200 ft.	500 ft.
Additional power required.....	80%	50%	30%	20%	10%	4%

Belt conveyors may be regarded as better adapted to the requirements of large plants than to small.

Of the various systems of hoists, such as hoist and hand car, hoist and cable car, and hoist and trolley, we can, in a general discussion, such as this, dismiss the first two since altho there are several prominent installations of both types in the United States and Canada, the total number is com-



Fig. 2. Shepard Grab Bucket Hoist in Power House Room, With Coal Track and Storage Adjacent.

paratively limited, and it is apparent that these are types not likely to survive.

The telepher is a type of hoist deservedly popular for small and medium-sized, as well as large plants. In many ways the installation of the hoist and trolley systems appeals as one of the most logical and desirable solutions of the coal and ash handling problem. It is, of course, used in connection with bucket or belt conveyors, as well as without. Where coal storage is desired and space adjacent to the boiler-room is available, the hoist and trolley systems will generally prove the most economical installation, and the possibilities should be thoroly canvassed.

Fig. 1, supplied thru the courtesy of Professor Gebhart, shows the installation of a Jeffrey telepherage system at the plant of the Scioto Traction Co. With this arrangement, if the coal car is of the dump type the contents are discharged directly into the coal pit from which the coal is removed by grab bucket and transferred either to the overhead bunker or to the storage pile. If the coal car is of the

gondola type the coal is removed directly from the car by the grab bucket. The bucket is hoisted and carried on the trolley into the building over the screen hoppers where it discharges its contents; the finer particles fall directly into

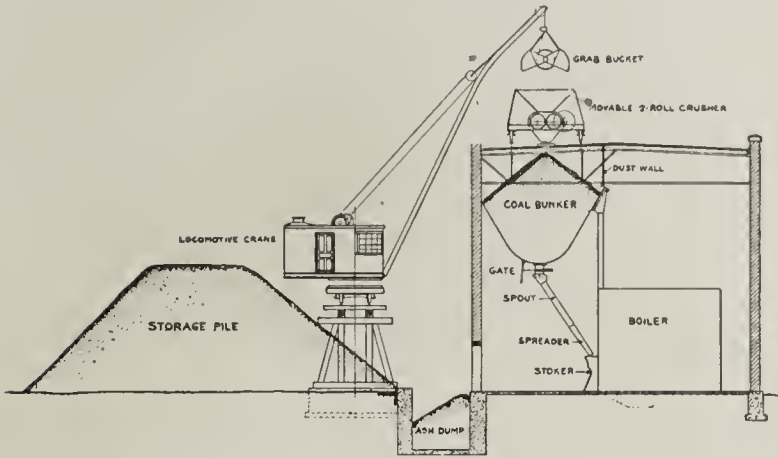


Fig. 3. Showing a Simple, Effective Layout for Boiler Room, With Coal Track and Storage Immediately Adjacent.

the bunker and the larger lumps are automatically delivered to the crusher. The grab bucket will take about 98 per cent. of the coal in the car, leaving only 2 per cent. to be handled by hand. Coal is fed to the stokers by means of a traveling electric hopper which receives its supply from the overhead bunkers. The present capacity of the plant is 50 tons per hour taken from the car or pit to stock pile.

Where it is possible to use the telepher without employing some additional type of conveyor, notable economies in cost of handling can be effected. It would be hard to imagine a more effective or economical system for unloading coal from cars, storing it, and supplying it to a battery of eight boilers, than that illustrated in Fig. II. An excellent feature of this system is that where an old boiler-room is concerned, it can frequently be installed with fewer changes, and at much less expense than would be possible with belt or bucket conveyors.

The hoist and trolley is one of the best forms of ash handling equipment for use where ashes are produced in large quantities and are to be carried to a considerable distance from the plant. It is also an exceptionally good method for taking care of large hard clinkers, which cannot be broken small enough to be handled in other types of conveyors. For this reason, it is particularly adapted to use with gas producers or other furnaces in which large clinkers and wet ashes are produced. In installing this class of equipment, the trucks should be so arranged that the bucket can be dropped directly into the ash pit or directly in front of the ash door in hand-fired plants. The buckets should also be of sufficient capacity to remove the entire accumulation of ashes in one pit at one loading.

For small and medium-sized plants, where normal coal storage is desired, the locomotive crane is entitled to consideration. Fig. III, supplied thru the courtesy of the R. H. Beaumont Co., shows a simple, effective layout for boiler-room, with coal track and storage immediately adjacent. As between the locomotive crane and the hoist and trolley systems, local conditions and comparative costs of installation and operation, as worked out for the particular plant under consideration, will govern the choice.



The Glasgow Clay Products Co., manufacturers of "Va-Tex" face brick and other clay products, has established a new office at its plant at Glasgow, Va., from which all the business of the company will be handled. The old offices of the concern were at 120 Broadway, New York.

C. N. C. P. A. CONVENTION

to EXCEL ALL PREVIOUS GATHERINGS

*Large Attendance from the United States as Well as the Dominion Assured for the Seventeenth Annual Meeting, to be Held at Montreal, May 26, 27 and 28—
Program of Papers and Entertainment "Can't Be Beat"*

THE SEVENTEENTH ANNUAL CONVENTION of the Canadian National Clay Products Association will be held in Montreal, on Monday, Tuesday and Wednesday, May 26, 27 and 28. The headquarters will be the Windsor Hotel, the palatial Montreal hotel, while the sessions will be held in the Builders' Exchange parlors in the Drummond Building, 511 St. Catharine Street, nearby. This is the first peace convention and judging by the arrangements made and the requests for information, the convention will be the most important clay products convention held in January in years, in Canada.

LARGE CLAY PLANTS NEAR CONVENTION CITY

The Montreal members of the association are well known for their enthusiasm, courtesy and hospitality and visitors are assured a warm welcome to Canada's largest city. Several large clay products plants are located near Montreal, such as the National Brick Co., with plants at Laprairie and Delson; St. Lawrence Brick Co., Mack Brick Co., Montreal Terra Cotta Co., while other large plants at Sherbrooke, St. Johns and Quebec City are within a short run of the city.

Many brick manufacturers in the United States have announced their intention of attending and a warm welcome awaits all who attend from south of the border. Two cars will take the delegation from Toronto, leaving that city by C. P. R. on Sunday night, May 25.

ENTERTAINMENT FEATURES UNSURPASSED

The social features are being arranged by the Montreal members who have formed themselves into a Montreal Entertainment Committee with L. W. McArthur, 199 Prudhomme Ave, Montreal, as chairman. The guests will be given a luncheon at the lookout on Mount Royal where they will be driven by coach, no motor cars being allowed on the mountain. An afternoon will be devoted to a trip around Montreal harbor, one of the finest in the world. Here are located the great docks at which many Canadian soldiers went on board the camouflaged ships which carried them to France; the mammoth grain elevators, the extensive industries including the steel plants where submarines and submarine chasers were turned out complete and a host of other interesting features.

There will be the usual banquet with some of Montreal's greatest talent as speakers and entertainers. Included on the speaking program will be Joseph Russell, M. P., Toronto, while on the musical program will be William Moore, the celebrated tenor who has accompanied the Toronto delegation on so many trips. Mr. Moore is a whole host in himself. On Monday night there will be a theater party as guests of the Montreal members.

The president's address will be given at the opening session on Monday morning, May 26, a feature of it being references to the number of clay products manufacturers and their sons who enlisted. Included are such names as Price, McFarlan, Green, Wilson, Burgess, McCannell, Anderson, Kennedy, Pears, Frid, etc., all well known names.

Also at the opening session will be given the report of the Technical Education Committee by Millard F. Gibson who will report on the establishment of a course in ceramics at the Toronto Technical School where two laboratories have been furnished by the C. N. C. P. A.

H. H. Hallett will give the report of the Tile Committee and will point out the needs of the drain tile industry.

Monday afternoon will be taken up with the harbor trip. The program of papers as at present constituted is as follows:

TUESDAY, MAY 27

10:00 a. m.—Election of officers.

(1) "Why Freight Rates Are as They Are and How Made," by Jas. Walsh, general manager of the Canadian Manufacturers' Association.

(2) "Transportation of Clay Products," by Millard F. Gibson, manager of the National Fireproofing Co., Toronto.

(3) "Machinery and Dryers for Large Sized Tile," by L. Haigh of the American Clay Machinery Co.

(4) "Tests to Determine the Strength of Brickwork," by W. W. Pearse, City Architect, Toronto.

TUESDAY AFTERNOON

3:00 p. m.—(5) "Burning of Carbonaceous Clays," by Joseph Keel B. Sc., chief engineer, ceramic department, Mincs Branch, Ottawa.

(6) "Use of Fire Brick in the Steel and Clay Products Industry." The author of this paper has not yet been announced but the discussion will be opened by A. F. Greaves-Walker, of the American Refractories Co., Baltimore.

(7) "Steam Shovel Comparisons" by Wm. Burgess, Superintendent of the Don Valley Brick Works, Toronto.

(8) "Sewer Pipe Investigations," by A. G. Dalzell, at present with the Commission of Conservation, Ottawa, and formerly assistant engineer of Vancouver, B. C.

WEDNESDAY MORNING

10:00 a. m.—(9) "Firing Clay Products in the Dressler Continuous Muffle Kiln," by Conrad Dressler of the American Dressler Tunnel Kiln Co., New York.

(10) "Continuous Kilns," by H. Webster, Newport, Ky.

(11) "Motor Trucks in the Clay Products Business," by Chas. Harris, of the Dominion Sewer Pipe Co., Swansea, and Horace Harpham.

THURSDAY AFTERNOON

2:00 p. m.—Question Box. At former conventions the question box has necessitated much more time than has been given it. The executives have therefore decided that an afternoon be devoted the Question Box, and Thursday afternoon has therefore been set aside for this purpose.

The officers of the Canadian National Clay Products Association are as follows:

Past President—A. F. Greaves-Walker.

President—Thomas Kennedy.

1st Vice President—William Burgess.

2nd Vice President—Ryland H. New.

3rd Vice President—G. Angus German.

Secretary-Treasurer—Gordon C. Keith, 435 Grace St., Toronto.

Directors—the above and John S. McCannell, Charles A. Millar, Andrew Dods, T. H. Graham, N. T. Gagnon, Chas. B. Lewis, Walter Clark and J. Edward Frid.



U. S. EMPLOYMENT SERVICE “ON *the* JOB”

EVEN THO THE FAILURE of Congress to pass the Urgency Deficiency Bill, has cut the United States Employment Service down to skeleton form, the national machinery for placing soldiers, sailors and war workers in suitable employment, will continue to function and the organization be held together until Congress meets in extra session and provides the funds necessary to carry on the work of finding jobs for the men who have served their country in its hour of need.

The Service, as is generally known, has been cut down 80 per cent., leaving 56 regular offices and about 2,000 emergency bureaus for returning soldiers, sailors and war workers. The representatives of the Employment Service in the demobilization camps are retained, and thru the cooperation of individuals not connected with the Federal Government, the Employment Service believes it will be able to keep open many of the offices which it has been announced would be closed, and instead of two offices in New York State alone, there are indications that the number will reach at least twelve.

WORK WILL BE CARRIED ON

With the promised cooperation and support of communities and welfare organizations, the work will be continued. Plans already are in operation to arouse and make effective, sentiment thruout the country for the continuance of this work, and to assist Federal, State, Municipal and volunteer agencies to arrange for carrying on employment activities under the general direction of the Federal Employment Service.

John B. Densmore, Director-General of the Employment Service, urges that business, labor, welfare and all other interests in every community in which a Federal Employment office has been abandoned, take over the office and its work, in order to help meet the emergency that the country is now facing.

“The work of assisting soldiers, sailors and war workers to suitable employment, must be continued at all costs,” says the Director-General. “The unemployment area is spreading, and it means industrial insurance to the town or city which takes over an employment office which must necessarily be dropped by the U. S. Employment Service thru lack of funds. Aside from sentimental and patriotic considerations, it will be a sound business investment to a community to carry on this necessary work. It is the misery caused by widespread unemployment that breeds social unrest and disturbance, and gives the agitator an opening.”

SEVERAL SPECIAL SECTIONS ABOLISHED

In the general cut in the Service it has been found necessary to abolish the Professional and Special Section as well as the Skilled Labor Section. So far as possible

the work of these two important sections will be carried on thru the remaining regular offices, and thru which high grade professional and technical men, as well as skilled and common labor will be supplied. In like manner, men for the farms thruout the United States, for the spring planting, for the summer work and for the harvest, will be furnished. Organization by the Council of National Defense of the Emergency Committee of Employment to assist the U. S. Employment Service and enlist community support for the offices of the Service which must be temporarily abandoned, is expected to be of great aid in meeting the emergency. Also a number of State Legislatures are considering appropriating funds to carry on the U. S. Employment Service organization and work in their states until Congress appropriates the necessary money. Several already have arranged to carry Federal Employment offices over the emergency. In addition to this, large numbers of employees of the Employment service, deeply interested in the human problem that they have been helping to solve, have volunteered their services for the remainder of the emergency period. Many of the state heads have volunteered to continue at a nominal salary, and welfare organizations which have been cooperating with the Employment Service in the maintenance of the emergency bureaus for returning service men, are already increasing their efforts.

CITIES IN WHICH OFFICES ARE LOCATED

Following are fifty-six cities in which the Federal Employment Service has arranged to continue offices: Alabama, Birmingham and Mobile; Arizona, Phoenix; Arkansas, Little Rock; California, San Francisco and Los Angeles; Colorado, Denver; Connecticut, Bridgeport and New Haven; Delaware, Wilmington; Washington, D. C.; Florida, Jacksonville; Georgia, Savannah and Atlanta; Idaho, Boise; Illinois, Chicago, two offices; Indiana, Indianapolis; Iowa, Des Moines; Kansas, Wichita; Kentucky, Louisville; Louisiana, New Orleans; Maine, Portland; Maryland, Baltimore; Massachusetts, Boston; Michigan, Detroit and Grand Rapids; Minnesota, Minneapolis and Duluth; Mississippi, Meridian; Missouri, Kansas City and St. Louis; Montana, Butte; Nebraska, Omaha; Nevada, Reno; New Hampshire, Manchester; New Jersey, Newark and Paterson; New Mexico, Albuquerque; New York, Buffalo, Syracuse, and New York City (two offices); North Carolina, Raleigh; Oklahoma, Oklahoma City; Oregon, Portland; Pennsylvania, Pittsburgh, Braddock, and Philadelphia; Rhode Island, Providence; South Carolina, Columbia; South Dakota, Pierre; Tennessee, Nashville and Memphis; Texas, San Antonio and Houston; Utah, Salt Lake City; Vermont, Montpelier; Virginia, Richmond, and Norfolk; Washington, Seattle; West Virginia, Charleston; Wyoming, Cheyenne.

The POSITION *of* CLAY PRODUCTS *in the* FIELD *of* EARTHEN PRODUCTS

*An Address Which Was to Have Been Given at the Meeting
of Major Group Nine, at Atlantic City, December 3 to 6,
1918. Published by Permission of the U. S. Bureau of Mines*

By R. T. Stull

Chief Ceramist, U. S. Bureau of Mines

EARTHEN PRODUCTS are of vast economic importance as indicated by the fact that the nation's annual output amounts to considerably more than half a billion dollars in value.

The earthen product industries utilize non-metallic minerals and for the most part the raw materials are of small intrinsic value until work has been expended upon them. Of the numerous raw materials utilized, clay, sand, limestone, gravel and gypsum are the five materials entering into the vast bulk of the earthen products. These materials are so widely distributed and occur in such large masses that the industries founded upon them will never be able to exhaust their natural supplies.

TWO GROUPS OF EARTHEN PRODUCTS

Earthen products naturally fall within one of two general groups: First, products which do not require treatment in kilns or furnaces in order to prepare them for the market and in which only the physical form and purity have been changed; second, products which require calcining, hardening or fusing in kilns or furnaces during the process of their manufacture or use.

The first group includes products such as building stone, marble, slate, asbestos, crushed stone, sand, gravel, ground limestone, plaster and phosphate rock for agricultural purposes, chalk, talc, mica, etc. The second group comprises the ceramic products, such as clay products, hydraulic cements, quick lime, wall plasters, glass, enamels for metals, refractories made of silica, magnesia, chromite and bauxite, quartz glass, abrasives, electrical carbon products, graphite crucibles, etc.

The total value of the nation's ceramic products amounts to more than four hundred and forty-five million dollars annually, and of that sum the value of all clay products is over two hundred and seven million dollars.

CLAY PRODUCTS IN TWO GENERAL CLASSES

Clay products are divided into two general classes: First, products known as pottery; and second, structural materials. Those products are classed as pottery in which high grade material and on which skilled labor and artistic talent have been expended, such as art pottery, china, earthen ware, electrical, chemical and household porcelain, ornamental wall and floor tile, sanitary ware, chemical and household stoneware, etc.

Under structural materials are classed those products which are utilized principally in engineering and architectural work, and include building, paving and fire brick, architectural terra cotta, roofing tile, sewer pipe, drain tile, hollow blocks, fire proofing, silica, magnesia, chrome and bauxite refractories, etc.

The value of the domestic output of pottery products amounts to very nearly fifty million dollars annually and the value of structural materials is approximately one hundred and fifty-seven million dollars.

The importation into the United States of all clay products amounts to ten and one-half million dollars annually. Of this sum 97 per cent. is classed as pottery and the remaining three per cent. as structural materials. Insofar as structural materials are concerned, the market would not be materially affected if importations were excluded entirely. We have in the United States sufficient raw materials to supply all the needs of manufacture and demand required for the production of structural materials.

With pottery products the situation is different, especially in regard to high grade pottery known as tableware. The average white pottery body used in tableware is composed of 40 per cent. kaolin or china clay and 10 per cent. ball clay, as the clay portion of the mix. The remaining 50 per cent. is generally composed of potter's flint and feldspar. Of the kaolin or china clay content, 56 per cent. is imported from England, coming from the County of Cornwall. Of the ball clay content, 75 per cent. is imported.

DEPENDENT ON ENGLISH CLAYS

Potters claim that they require the English clays, or at least their pottery mixtures should contain some English clays in order to produce ware of high quality and low manufacturing losses. However, in the production of other grades of pottery, manufacturers claim it is desirable to use some English clay, but that it is not so important as in the case of tableware.

One manufacturer of pottery making earthen ware used all American materials entirely with satisfactory results, but after his plant was converted to the production of china and porcelain he found it necessary to employ a certain per cent. of imported china and ball clays in his formulas.

Another manufacturer reports that after the war began

he saw the handwriting on the wall and anticipated that the foreign clays would be shut out of our markets. He, therefore, proceeded to develop a pottery mixture from all American materials. This he did, resulting in a product of good quality and color, but he was compelled to return to the use of part English clays because his manufacturing losses amounted to 15 per cent. with the formula made from all American materials, whereas, with the English china and ball clays his manufacturing losses were approximately five per cent.

The amount of English china clay imported amounts to about two hundred and fifty thousand tons annually and the domestic production is about one hundred and fifty thousand tons. These figures are for all white clays produced and imported, which are utilized principally in the paper, oilcloth and pottery industries.

Of the clays used in these industries in this country, about two-thirds are imported as against one-third of domestic production. This is not due to the lack of our kaolin resources, since there are a number of districts in the United States which hold workable deposits of white clay sufficient in quantity to supply all demands. The reason that such a large quantity of imported white clay is used is said to be due to its higher quality.

ENGLISH CHINA CLAY PRODUCTS SUPERIOR

There is a considerable difference in the physical and chemical constitution of the English china clays as compared to our American kaolins. The English clays are derived from decomposed granites or pegmatites, while the American white clays are derived mostly from decomposed feldspathic rocks.

The English clays occur more uniform in physical and chemical properties and contain less fine, gritty or abrasive material as compared to our American clays and are much easier to handle in the washing or purification process. The American deposits in the same district vary considerably in their physical properties and even in the same deposit a few feet apart there is considerable variation.

Manufacturers of paper and oilcloth claim that they can produce articles of far superior quality and texture when English china clays are employed than they are able to produce when using our American clays. It is further claimed that the American clays wear out the machinery very rapidly. An oilcloth manufacturer reports that it is necessary to grind the spreading knives only twice a week when English china clay is used, whereas it is necessary to grind the knives twice a day when American clay is employed.

KAOLIN USED IN WAR MATERIALS

Kaolin played a small though important role in the production of war materials. It was used to assist the reaction in the production of a poisonous gas, as an important ingredient in chemical porcelain used in laboratory work, in electrical porcelain insulators for radio work and in spark plugs for aeroplane and truck motors, in porous plates and dialyzers for filtration purposes where strong reagents and high temperatures are necessary for the reactions.

Before we can be independent of importations of pottery clays and products, it is first necessary to improve the mining and refining processes and to blend the clays from different deposits in the same district in such a manner as to produce a clay which will be accepted by the trade as equal to the imported varieties. Inasmuch as approximately two-thirds of the white clay is imported, it would, therefore, be necessary to increase the domestic output by nearly three-fold. The capacities of the present clay-washing plants

would have to be increased and new ones installed in order to work deposits not utilized at the present time.

The characteristics of kaolins found in different localities as they exist in their crude form, vary considerably. On account of this condition special purification processes should be developed and the general practice of purification now employed modified in order to obtain the highest quality of product and a higher degree of uniformity.

BOND CLAYS

Next to kaolins in importance are the very plastic clays of medium to high refractory qualities known as bond clays. The white-burning ball clays, principally from England, are employed extensively in pottery to add to the mixtures the properties of plasticity and bonding strength. Abundant ball clay deposits occur in the United States, especially in Kentucky, Tennessee and New Jersey. A number of these clays are used in pottery bodies with excellent results.

Those bond clays which show color on burning are not suitable for white pottery purposes but are valuable for the manufacture of articles in which color is unimportant, such as glass pots and graphite crucibles.

Prior to the war the importation of what is known as pot clays amounted to twenty-five thousand tons annually. These clays came mostly from Germany and consisted principally of two types of clay—one called the Gross Almerode, used in the manufacture of glass pots, and the other the Klingenberg clay, which was considered indispensable in the manufacture of graphite crucibles.

In the summer of 1914 the importation of the German clays was shut off and as soon as the American stocks were exhausted, manufacturers were compelled to search for substitutes. This created some hardship at first, but domestic clays were soon found which are superior in many respects and at the present time it is claimed that we are producing a better glass pot and a better graphite crucible than those produced with the imported clays.

In the manufacture of graphite crucibles it is not only necessary to employ suitable bond clays but suitable graphites as well. Substantially all of the graphite used in crucibles in pre-war times was imported from the Islands of Ceylon and Madagascar, it being claimed that good crucibles could not be made from our domestic graphites. This was due in part to tradition but principally due to the fact that practically nothing was known of the crucible-making properties of our domestic graphites.

CERAMIC EXPERIMENT STATION

The abnormal conditions brought about during the past four years had demonstrated the need of a careful survey of our natural resources in order that we may know their extents, qualities and distribution. As a step in that direction, in regard to our ceramic resources and in order to assist the ceramic industries in their problems, the United States Bureau of Mines established the Ceramic Experiment Station at Columbus, Ohio, July 1, 1917. The location is the center of the largest clayware producing state and is the approximate center of the nation's ceramic industries.

The work of the ceramic station embraces the investigation of problems pertaining to the mining, refining and utilization of ceramic raw materials, the study of ceramic products and processes with the object of reducing the cost of production and improving the quality of the products, and to prevent waste. About a year ago the ceramic station undertook a survey of the workable white kaolin deposits east of the Mississippi River. Sixty samples have been taken from the kaolin-producing states and work is now being done in testing these clays in order to deter-

mine their values for commercial use. Simultaneous with this work experiments are made in order to improve the processes of purification. A new and inexpensive clay-washing process has been devised which removes the fine gritty material difficult or impossible to remove under present clay-washing methods.

The necessity during the past few years for increasing the production of alloys and crucible steels stimulated the demand for graphite crucibles. On account of the necessity of curtailing imports in order to conserve ship tonnage, it was first necessary to know to what extent American graphite could be used for crucible making. In view of existing knowledge considerable doubt was expressed as to whether American graphites could be successfully substituted for the imported graphites.

Owing to the importance of the situation, the ceramic station undertook the investigation of domestic bond clays and graphites for crucible-making purposes. Experimental work is now under way on twenty different bond clays and twenty-one graphite samples. The graphite crucible investigation at the present time is about one-third complete. Nearly two hundred full-sized crucibles have been made and tested under actual foundry conditions and the work has progressed far enough to indicate that crucibles can be made from domestic materials which are at least equal to those made from imported bond clays and graphite.

Other investigations which have been undertaken by the ceramic station are: The use of dolomite as a substitute for magnesite for refractories; a survey of the fire clays of Ohio (in cooperation with the Geological Survey of Ohio); the testing of clays in cooperation with the United States Geological Survey; and spalling tests of fire brick.

MANUFACTURING PROBLEMS

In regard to manufacturing conditions in the ceramic field, much remains to be done, especially in the brick, hollow block and sewer pipe industries. Considerable advancement has been made in the manufacturing methods, but there is still room for improvement, even tho these products are not made today as they were in grandfather's time.

Brick represent the most weight for the least amount of financial return of any manufactured product and the margin of profit is small. Seventy-five per cent. of the production cost is chargeable to two items—fuel and labor, and any saving that can be made in the cost of production must be made largely on these two items.

Perhaps there is no other industry requiring so much hand labor comparatively, as is necessary in the modern brick plant. In order that a saving may be made in the cost of labor, it will be necessary to develop suitable automatic machinery for handling the material from the clay bank thru to the freight car. Since the invention of the auger machine in the early 60's and the power driven cutting machine a little later, practically no automatic machinery has been introduced into stiff mud brick manufacturing with the exception perhaps of the steam shovel and the conveyor.

The making of a brick thruout the process, from the mining of the clay to the finished product, is comparatively simple, mechanically, and a much less complicated operation than is met with in a number of other industries where a large portion of the work is done by automatic machinery.

The average manufacturer is using the equivalent of approximately one pound of coal to burn a brick. This, of course, includes building, paving and all kinds of fire brick. In the intermittent down-draft kiln only about 15 per cent. of fuel efficiency is actually attained in burning the product. The remainder is lost thru the stack, by radiation, cooling off of the ware, and by imperfect combustion. That which is

needed most, in order to conserve fuel, is a more extensive use of the heat conserving kilns, such as the continuous and tunnel kilns now employed in a very limited number of plants.

It has been demonstrated repeatedly that clay products can be burned in the continuous kiln with a saving of over 25 per cent. of fuel as compared to the intermittent kiln. Where kilns of the continuous recuperative or regenerative type are employed, there is little chance for fuel saving, yet there are individual cases on record where improvements have been made resulting in savings of over 40 per cent. of the fuel bill.

There are manufactured in the United States over ten million M brick annually. It would be a comparatively simple matter to improve kilns already in existence and the firing methods whereby an average saving of 10 per cent. of the fuel can be affected, which would amount to the equivalent of over one million tons of coal annually; and it is safe to say that a like sum could be saved in all other clay industries.



Cleveland Service Man Shows Comparative Cost Figures for Frame and Brick

With a view toward being better able to talk comparisons of costs, a special series of figures, showing the relative outlay for frame and brick construction in residence building, has been prepared by O. R. Leach, service manager of the Hydraulic-Press Brick Co.'s Cleveland, Ohio, branch. These figures, on several different kinds of construction, have been carried out to the minutest detail, from excavation and foundation to fire insurance. The costs were tabulated by one of the leading construction engineers of the Cleveland district.

Three different forms of construction were used to make conclusive comparisons. The first involves a two-family house, one of the recognized standard frame construction, the other face brick in hollow tile. The figures show that the total cost of the former is \$9,950, and that of the brick building \$11,010. The second comparison is for a single dwelling. The frame structure would cost \$7,320, the brick \$7,895. Three sets of figures have been compiled for the third comparison. This includes a stucco on frame dwelling, costing \$5,468; a siding on frame, costing \$5,528, and a brick building, which costs \$6,396.

"By these figures we know we will be able to argue convincingly for brick in much of the home building contemplated in this district, and hope to be able to convince the home builder of the relatively slight initial cost of brick over frame, while we also will be able to show that the upkeep of the frame in the end will exceed the cost of the brick house and its upkeep," says Mr. Leach.



Roy G. Smith Managing Brick Plant

Roy G. Smith, who for a number of years has been connected with the Bonnot Co., of Canton, Ohio, with headquarters at Kansas City, Mo., has left that concern and is now acting in the capacity of plant manager for the Acme Brick Co., Fort Worth, Texas. The Acme Brick Co. has two large face brick plants and handles a large quantity of business from other plants in the clay line.

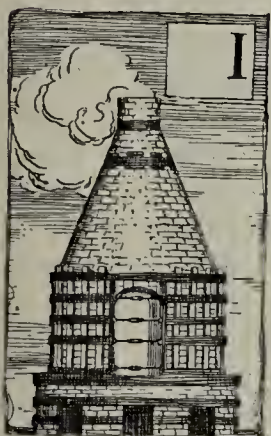
Mr. Smith was recently engaged in representing the Holbeck Pulverized Coal System, which is an activity of the Bonnot Co., traveling thruout the country investigating the possibilities of powdered coal.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

CUBA OFFERS BIG MARKET FOR GOOD SANITARY EARTHENWARE



IN THE DISCUSSION of possible export markets for American products these days, we are apt to think first and foremost of South America—it looms big on the horizon of foreign account and apparently holds the center of attraction among reasonably nearby export fields for various commodities. In more ways than one this concentration of activity is justifiable; the demands of Brazil, Argentina, Chili and other South American countries are running

high, and quite naturally American manufacturers are making ready to heed the call and earn a share in the returns.

At the same time there are other export markets, even closer by, that must be considered, and among these Cuba and the West Indies are of no mean account as an outlet for American-made products. Cuba has developed into an active, progressive and enterprising country, just near enough to the United States to be on direct speaking terms, and deeming this country in more ways than one its "big brother." In other words, the good citizen and business man of Cuba is distinctly friendly and quite partial to American goods and American ways—he is ready and willing to buy, but he wants a "square deal." And it is only natural that he should.

FINE MARKET FOR CLAY PRODUCTS

The possibilities of Cuba and its environs as a field for the sale of American clay products are set forth in an illuminating manner by George E. Hoffman, secretary of the Monument Pottery Co., Trenton, N. J., who recently returned from a trip to Havana and other parts of Cuba, made to obtain first-hand information regarding trade conditions in this district, particularly with reference to sanitary earthenware and other burned clay specialties.

The Monument Pottery Co., which stands high in the manufacture of porcelain and vitreous wares, has had selling connections in Cuba for some time past and has found this a likely and receptive market for its different specialties, which are of one grade only—and that the best. Among the prominent specialties are baths, lavatories, low and high

china tanks, fountains, toilet tables, kitchen sinks, laundry tubs, etc.

Mr. Hoffman points out that clay products of all kinds are used to a surprising degree in Cuba. Tile is seen everywhere; it is used for the interior walls of homes and other buildings, porches, sidewalks and for other purposes. Many dwellings are arranged with tile walls extending to the ceiling, giving a pleasing and inviting air, with aspect of exceptional cleanliness. The new and modern houses are mostly of one-story height, while the older residences run to two and three-story height. The streets in Havana are well paved and clean; the hotels provide commodious accommodations for the visitor, with good meals and excellent service. A little sidelight as to the use of American products is seen in Ford cars and taxicabs—Mr. Hoffman says they "abound in millions."

Cuba presents a fine, open, prosperous market for burned clay specialties, and speaking particularly of sanitary earthenware, there are great opportunities in this direction. Sanitary fixtures are sold direct from the floor in this section, and not upon special order or from catalog as in this country. The prospective purchaser shows no hesi-



GEORGE E. HOFFMAN.

tancy in making selections promptly from available stocks. Many stores in this line are most inviting; they keep the surroundings thoroly up-to-date, clean and ready for cus-

tomater service. This is the character of establishment that the Monument company seeks, and consequently when Mr. Hoffman found Monument goods in a store or two not up to the desired caliber, note was made to have no more products go to such quarters. Dark, dingy, ill-kept places naturally reflect on the commodities handled and the progressive American manufacturer of burned clay products cannot afford to have his wares presented in such an atmosphere. It lowers the appreciation of consumers for the products and hurts the high class dealer.

RIGHT BUSINESS METHODS MUST BE OBSERVED

The one way to operate successfully in Cuba is the right way, or by the adoption of sincere, upright business methods, giving quality and service when these are sought. It is pointed out that in connection with the clay product business, the Cuban dealer and merchant has frequently been the outlet for "seconds" which were sold as first grade material. He has been fooled often, and for this reason is frequently skeptical of the American manufacturer and his claims. He looks for honest value, right service and sound business practices, and when once he is assured that



Showing Part of the Large Sanitary Ware Manufacturing Establishment of the Monument Pottery Co.

his American connection engages on this status, he is satisfied and "boosts" his end. He wants to do business with the honest man, and not with the concern that might try to "put it over."

For this reason the American manufacturer who engages along right lines and sells his product for just what it is, is presented with fine opportunities in this district. It was just for a more definite knowledge of matters of this kind that Mr. Hoffman journeyed to Cuba, and the findings more than justified the time and expenditure. The Monument company has four solid connections in this section at the present time, and anticipates a good, substantial and constantly increasing business for its various earthenware specialties.

KNOWLEDGE OF SPANISH VALUABLE

It is pointed out that a little knowledge of the Spanish language is distinctly valuable for business service in Cuba and its environs. Familiarity with just a sufficient number

of everyday words and the ability to form intelligent sentences will prove advantageous. In this connection, Mr. Hoffman "brushed up" on the way down, so that upon arrival he was able to handle common words and phrases quite well—in fact to the point of ordering meals and for other matters of necessary service. Also, for conversing with the company's local connections and explaining plans for the future.

At the same time, there is quite a little use of the English language thereabouts. Enterprising merchants and business men have people available who can so converse and interpret as required in contact with American commercial interests and visitors. The rapidity, however, with which a working knowledge of Spanish can be acquired by an active mind, makes the matter a simple one for near-solution.

The Cuban territory at the present time, it is set forth, seems in a flourishing condition. The sugar crop is good, as is also the tobacco, and the latter is to be seen in large quantities. Both agriculturally and commercially, the country is enjoying certain prosperity, and the present seems to hold forth as being the right time for the American manufacturer of burned clay wares to enter this section with intent of doing a good business under good and lasting business methods.

* * *

The Monument Pottery Co., Trenton, N. J., has abandoned the use of the terms "A and B grades" in the sale of its vitreous china and porcelain quality ware. In making this change, the company says: "We believe that the term 'Class B' heretofore used, has been a handicap to the trade, in that the owner or consumer did not properly understand its meaning. Monument pottery will hereafter be marketed as it has been and is now produced or manufactured—one grade or quality and that the very best—to be known as Monument porcelain." In connection with the sale of its different specialties, the company has adopted a new plan of exacting a nominal service charge to consumers who may come to the plant to make their selections; this charge being arranged to cover the actual work involved in this feature of sale. The Monument plant is now operating at a much reduced capacity over normal production; under ordinary conditions the works give employment to about 240 persons, but this number is considerably less at the present time. This plant is provided with twenty-four kilns, and has a capacity for handling about 1,500 pieces per month. Production in normal times aggregates in the neighborhood of \$600,000 per year in valuation. Among the notable installations of high-grade sanitary fixtures made by this company is the Traymore Hotel, at Atlantic City.

* * *

General conditions as regards pottery operations at Trenton, N. J., do not show any appreciable change during the past fortnight, and if anything, there is still a further lag in the demand for sanitary earthenware. One of the prominent potteries in this line sets forth that the increased inquiries in March indicated an early revival in the call for this class of material, but the month of April has reverted to a sub-normal plane again in this respect. The building reports which read so hopefully from different parts of the state, lead to the general impression that things will be righted in this branch of the ceramic industry before the coming of summer, and unquestionably the actual construction of such projects as the new million-dollar hotel at Newark, a \$500,000 hotel at Lakewood, and a proposed new hostelry at Atlantic City, will draw on Trenton potteries for the sanitary fixture installations.

The general ware potteries continue to operate on a good basis of production, while the electrical porcelain plants report an increased number of inquiries from the leading electrical manufacturers for the well-known specialties which are produced in local establishments.



In a late issue of "The Anchor," the house publication of the Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary earthenware, the optimism and hopeful aspect that the company takes of the present outlook, is well expressed by the following mention: "It would seem that prosperity and big business are just ahead. When the time comes, we, in the pottery business, will share it with the rest. It is commonly said that the potter has had 'lean picking' for some time; but we can confidently look forward to a near future of prosperity that has not been recently equalled. Then Maddock quality, known and recognized thruout the plumbing trade, will carry our ware into many new fields and greater operations." This comment is concluded with an expression of hopes that the Maddock plant will again be running at full force in every department and in every shop at an early date.



The Enterprise White Clay Co., Philadelphia, is keeping up production at its clay properties, and is furnishing materials to a number of the important potteries in the Trenton, N. J., district. The company's clay is used by the sanitary ware plants, as well as porcelain works, china and general ware manufactories, tile manufacturing plants, etc. Material is also furnished to a few of the

ceramic plants in the Raritan River section of New Jersey.



Mrs. Marie Maier, an employe of the United States Encaustic Tile Co., of Indianapolis, Ind., has just completed an attractive mosaic liberty bell in tile for the lobby of a store at Vincennes, Ind. The bell is five feet high and three feet nine inches at the base and contains approximately 13,000 pieces of tile. The yoke is made of chocolate-colored tile to represent walnut, while the bell was wrought of various tints to appear as of old bronze.



The United States Roofing Tile Co., which has headquarters at Parkersburg, W. Va., where a plant is also located, is having a fine run of orders for floor tile. The concern has another plant about 10 miles from Canton, Ohio. It has stopped the manufacture of roofing tile to concentrate on floor tile.



Coyne Trade and Engineering Schools Desire Catalogs and Samples

Manufacturers' and jobbers' catalogs of bricklaying goods as well as samples of all kinds are desired by the Bricklaying Department of the Coyne Trade and Engineering Schools.

This institution is said to have a splendid course in bricklaying, having developed successful bricklayers for the past 20 years. A large illustrated catalog which describes the various courses will be sent to interested parties who address the Coyne Trade and Engineering Schools, 45 E. Illinois St., Chicago.

"HOLLER DOWN YOUR OWN RAIN BARREL!"

A Texas reader sent in his personal subscription recently, with the explanation that altho he had an opportunity of looking over the copy of a well known business journal that came to his firm, he wanted to "holler down his own rain barrel." That is, he wanted to get his own paper, and not be dependent upon others for something that was valuable to him.

Most of us have this same feeling about newspapers and magazines, and it is peculiarly true of a business newspaper.

In many offices it is not possible for all the heads of the different departments to see the more important business papers which come to them until several days after they arrive, and frequently these publications never do get entirely around the office. Someone finds an article bearing on his particular work or on some problem or development that he has under consideration, and he cuts the page. The next man either wonders what is missing

or wishes he could see it. The result is that the man at the end of the line virtually loses out altogether. This is sure to happen in large offices which subscribe for only one copy of a publication in which all of the executives have a special interest. The only certain and sure remedy is to have an individual subscription in care of the firm or sent to a home address. In fact, many firms find it desirable and profitable to order copies of the magazines sent to the home addresses of their executive members and to heads of departments, at the firm's expense; this gives an opportunity for thoughtful reading and study under conditions of quiet, which are not usually obtainable in the average busy work shop or office.

Very frequently the subscriber in smaller offices is unable to "Holler down his own rain barrel" because the occupant of a neighboring office or his associate in the next room borrows it before the subscriber has a chance to look at it. Perhaps it is

not returned promptly, and as a matter of fact it is oftentimes not returned at all. It is in order, therefore, to appeal to the man who borrows. The subscriber not wishing to be disobliging to a friend, can hardly refuse to lend his copy of the paper, but it is timely and proper to suggest to the man in the next office who has formed the habit of using the other fellow's goods to follow the course of our Texas friend and "Holler down his own rain barrel."

These days require independence of thought in national affairs and breadth of vision in matters of international moment. Isn't it reasonable and proper to manifest a certain amount of individuality in such an important detail as the selection of your own business papers and assure yourself that you receive those publications which are vital to you in the successful prosecution of your work and which are stimulative and informative on international questions?—From the "Manufacturers Record."

REXALL

DOUBLE -

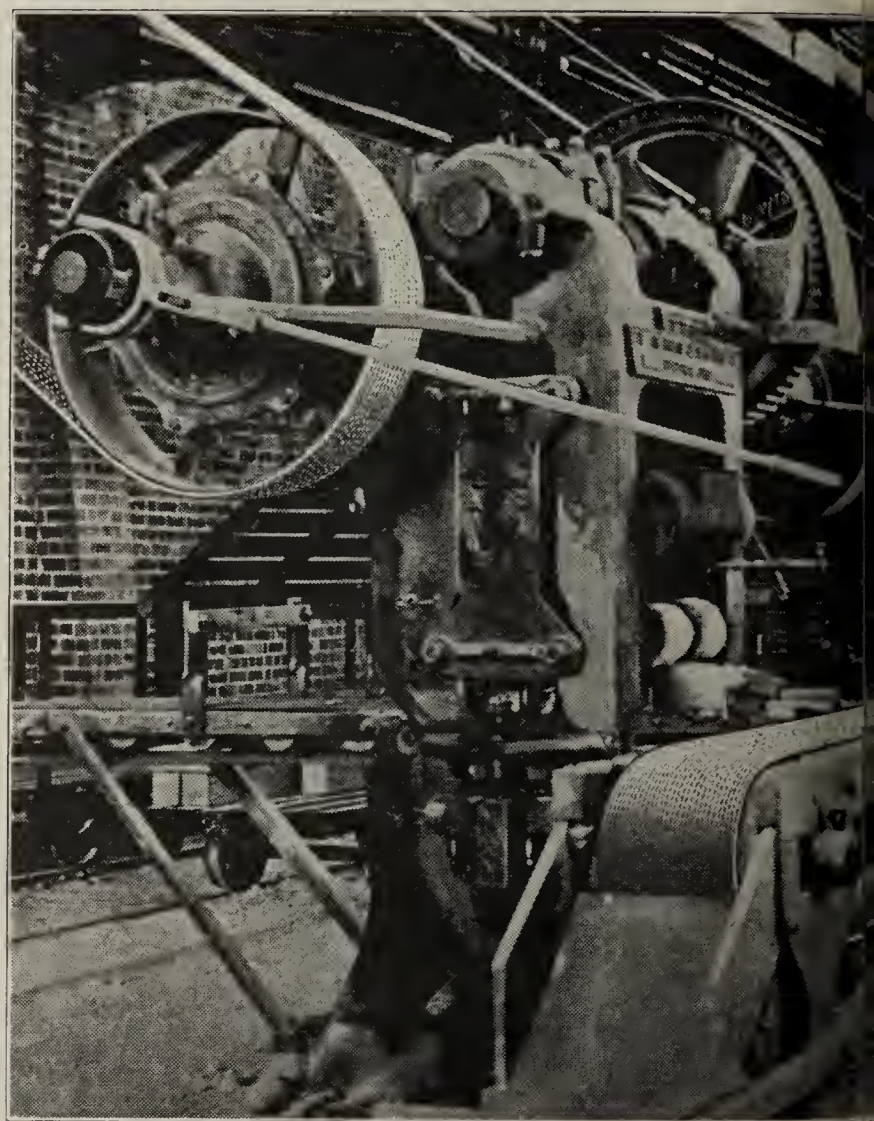
This is true in Belting just as in every line of Merchandise:—Extra thorough care in manufacturing always brings greater service and more profit to the consumer as well as to the maker.

To the uninitiated, one belt may look like any other kind of belt. But it is the unseen, hidden quality of materials and processes of manufacture that determine the *service-value* of belting.

The reason for the extra service records of REXALL *double-stitched* BELTS lies in the manufacturing extras that are found in them and not in others. These extras mark the difference between ordinary belting service and REXALL service.

No Manufacturing Short Cuts

In REXALL belts we use the heaviest fabric practicable— $37\frac{1}{2}$ oz. fabric, made up to our specifications and triple tested for evenness of weave, strength and flexibility. REXALL belts are double-stitched in closer rows and with shorter stitches. Ply separation is prevented.



IMPERIAL

General Offices:

Lincoln

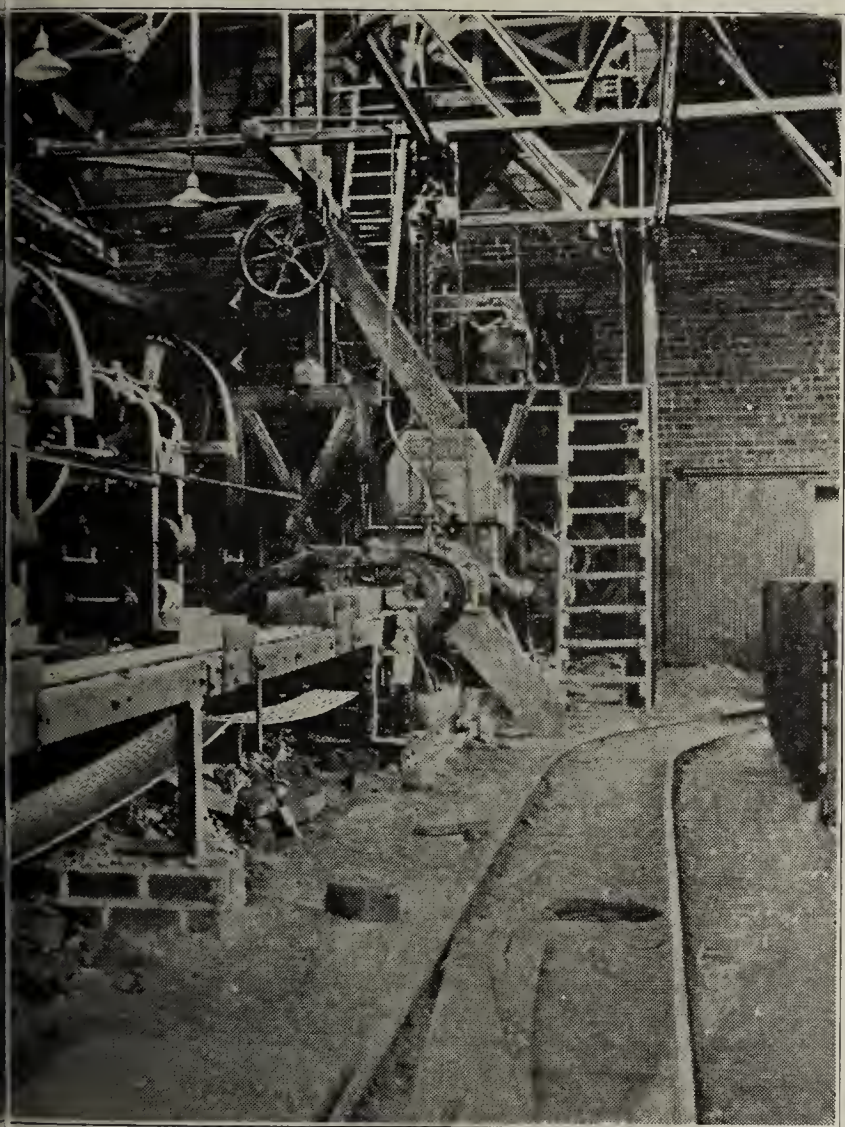
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Cleveland, Ohio
924 Kearns Bldg.

BELTS

FITCHED

REXALL belts are impregnated at high temperature with a specially prepared gum which is thus temporarily brought to a liquid state and *impregnates and insulates every fibre of the fabric.*



REXALL belts resist cold, heat and moisture over long periods.

The Proof of REXALL

is to be found in its wide use in the Brick and Clay industry for conveying and in the remarkable service records and savings that REXALL belts have effected everywhere. We know of no other belting that has produced greater tonnage records at lower cost per ton.

Our engineering staff will be glad at any time to assist in working out transmission and conveyor problems in a way to give the maximum service at pronounced savings. This service is offered without charge or obligation.

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The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

METHOD *of* ADJUSTING WAGES *to the* CHANGING COST *of* LIVING

By R. H. Minton

Superintendent, General Ceramics Co., Metuchen, N. J.

WHEN PRICES IN GENERAL are rapidly rising, wages almost invariably lag behind, and salaries to an even greater degree. There is never the close correspondence between the cost of things the employe buys and the amount received, such as should exist at all times. When the costs of living are rapidly going up by the elevator while wages and salaries are slowly climbing the back stairs, the result is discontent and strikes to force up wages. During the past three years the price level of living has made large and violent advances. Owing to the scarcity of labor the force of supply and demand has operated to advance the labor wage fully to keep step with this increase. This is also true in many cases where the power of strikes forced up the wage scale of skilled employes. The real sufferer from this abnormal condition is the employe on a more or less fixed salary, or income. In order to fairly readjust salaries and wages to present living costs, and to prevent undue dissatisfaction when the inevitable time comes for reductions, it behooves all forehanded employers to adopt some plan for maintaining a fair ratio between living costs and income. It is believed that the plan developed here will assist in the working out of suitable methods adopted to local conditions.

USE OF INDEX NUMBER OF COMMODITY PRICES

This plan is based upon Bradstreet's Index Number of Commodity Prices. This index number has been compiled for over fifty years and is based upon the wholesale price per pound for ninety-six articles. There are several other index numbers compiled, but Bradstreet's lends itself best to percentage calculation, as will be seen later, and on account of the large number of commodities covered its fluctuations are less violent than most others. The Bureau of Labor Statistics, of the United States Department of Labor, publishes both wholesale and retail index numbers based upon the prices of 1913 taken as equal to 100 per cent. A comparison has shown that there is a close enough relation between Bradstreet's index and the Bureau of Labor index to make Bradstreet's reliable and entirely free from criticism.

As all index numbers are based upon commodity prices and do not include the items of rent, transportation, public service supplies, etc., it is obvious that the changes shown from time to time by the index number should not apply to the entire income, but only to such proportion as is expended for the commodities included in the index number. A careful survey has shown that normally about 80 per cent. of family incomes of from \$500 to \$1,200 is spent for such items. On \$1,200 to \$1,500 incomes the percentage is 77 per cent., and from \$1,500 to \$2,500 it is 70 per cent. It is equitable to assume 75 per cent. to be a fair average, and this figure has been used for this computation.

Bradstreet's average index number for 1915 is 9.8531. In order to simplify the calculation we shall assume it to be 10.0000, or 10.00.

As the living cost of 1915 is taken as our basis, or 100 per cent., this number, 10.00, or 1,000 points, is our base number and is equal to 100 per cent. Then 100 points of the index number is equal to 10 per cent. and 10 points is equal to 1 per cent. Thus it is clear that the changes in this index number form a simple, yet relatively accurate, percentage with which to figure increases in wages, or bonuses on salaries. For instance, the index number for December, 1915, is 10.65, while for December, 1916, it is 13.66, or an increase of 301 points or 30.1 per cent. For a salary of \$20.00 per week in December, 1915, the increase would be 30.1 per cent. of \$15.00 (or 75 per cent. of \$20.00, or the average amount expended for commodities covered by the index number), which is \$4.52. Thus, \$24.52 in December, 1916, had the same purchasing power as \$20.00 in December, 1915. On a rate of 20 cents per hour in December, 1915, the increase would be 30.1 per cent. of 15 cents, or 4½ cents, making the wage rate of January, 1917, at 24½ cents per hour. In actual practice the changes will always be one month behind, as the index number cannot be determined until the end of the month.

TABLE REFLECTS CHANGING COST OF LIVING

Following is a table showing the proper wage per hour for each month from January, 1916, to April, 1919, based

upon a rate of 20 cents per hour in December, 1915, and also the salary for the same periods to correspond with a salary of \$20.00 per week in December 1915. Thus the laborer who received 30½ cents per hour in January, 1918, was in just about the same position as when he received 20 cents per hour in January, 1916, and a salary of \$30.42 per week in January, 1918, had about the same purchasing power as \$20.00 per week in January, 1916.

Date	Index No. preceding Month	Points advance over Dec. 1915	Per cent. Increase	Wage rate per hr.	Salary per Week
Jan. 1916	10.65	—	—	.20	\$20.00
Feb.	10.92	27	2.7	.20½	20.40
Mar.	11.14	49	4.9	.20¾	20.73
April	11.38	73	7.3	.21	21.10
May	11.76	111	11.1	.21¾	21.67
June	11.75	110	11.0	.21¾	21.65
July	11.69	104	10.4	.21½	21.56
Aug.	11.53	88	8.8	.21¼	21.32
Sept.	11.44	79	7.9	.21¼	21.19
Oct.	11.78	113	11.3	.21¾	21.70
Nov.	12.04	139	13.9	.22	22.09
Dec.	12.80	225	22.5	.23¼	23.75
Jan. 1917	13.66	301	30.1	.24½	24.52
Feb.	13.73	308	30.8	.24¾	24.62
Mar.	13.94	329	32.9	.25	24.93
April	14.14	349	34.9	.25¼	25.24
May	14.58	383	38.3	.25¾	25.75
June	15.12	447	44.7	.26¾	26.71
July	15.47	482	48.2	.27¼	27.23
Aug.	16.07	542	54.2	.28	28.13
Sept.	16.40	575	57.5	.28½	28.63
Oct.	16.65	600	60.0	.29	29.00
Nov.	16.98	633	63.3	.29½	29.50
Dec.	17.07	642	64.2	.29¾	29.63
Jan. 1918	17.60	695	69.5	.30½	30.42
Feb.	17.96	731	73.1	.31	30.96
Mar.	18.08	743	74.3	.31¼	31.15
April	18.07	742	74.2	.31¼	31.13
May	18.47	782	78.2	.31¾	31.73
June	18.91	826	82.6	.32½	32.39
July	19.00	845	84.5	.32¾	32.68
Aug.	19.18	853	85.3	.32¾	32.80
Sept.	19.11	846	84.6	.32¾	32.69
Oct.	19.05	840	84.0	.32½	32.51
Nov.	18.99	834	83.4	.32½	32.51
Dec.	18.90	825	82.5	.32¼	32.38
Jan. 1919	19.02	837	83.7	.32½	32.56
Feb.	18.53	788	78.8	.31¾	31.82
Mar.	17.63	698	69.8	.30½	30.47
April	17.22	657	65.7	.29¾	29.86

Instead of making the adjustments every month they could be made every three months, and it is probable that paying the increase in separate High-Cost-of-Living Envelopes would tend to encourage thrift on the part of the wage earner. It is believed that systems of wage adjustment worked out on this general plan will tend to greatly reduce friction between the employer and the employe, as it will develop mutual confidence which will exert its influence in adjusting other vexing problems as they arise.



Tracks for Transporting Raw Material

An important item entering into the transportation of raw material from the clay mines or pits to the plant is the subject of tracks and cars. The use of this system is, of course, one of the most common in use, and in the majority of cases proves to be the most economical. Tracks and cars lend themselves to so many varying conditions and different kinds of motive power. It is advisable to consider the use of tracks and cars from the motive power employed, and from the varying conditions of track layouts.

According to a writer in "Cement, Mill and Quarry," motive power has little to do with the track layouts or arrangement, but much as to the grades and upkeep of the tracks. First, tho, consideration should be given to the size of the rail, its weight and whether or not it is to be industrial track or the ordinary T-rail on wooden ties.

To consider this part of the subject, the size of the cars with their carrying capacity must likewise be taken into consideration, for it is evident that a car carrying 10 tons should not be operated on a 20-lb. rail, nor is a 45-lb. rail needed for cars carrying a ton or less.

Rails varying from 12 to 100 lb. to the yard are used in quarries. The light rails used are mostly T-shaped and run 12, 16, 20 and 24 lb. to the yard. These are nearly always used for light cars, seldom carrying more than a ton, and propelled by men or horses, or some motive power that does not have a heavy motor run upon the rails, such as a hoisting engine.

For cars having a capacity of 2 tons or more, and not exceeding 4 tons, 24, 30 and 36-lb. rails are used. For heavier loads, as when steam shovels are employed to load cars, the heavier rails are used. For fair-sized cars the rail in most common use is of a section weighing 45 lb. This weight rail is fairly easy and cheap to handle, yet makes a rigid track that can be shifted and raised. It will carry cars up to 20 tons capacity and locomotives up to 50 to 70 tons in weight if broad ties are laid on 2-ft. centers. Then, too, this weight rail commands a good price in the market and finds a ready sale. This is the case with some of the lighter as well as heavier rails, and many owners thus give preference to these particular weights and sizes.

OLD RAILS IN GREAT DEMAND

Altho some manufacturers purchase new rails, yet, in order to keep down the investment, which can quickly become a heavy item in a large plant, "relayers," a term used for second-hand rails, are purchased in a good number of instances. This frequently means a saving of from \$10 to \$15 per ton of rails, yet at times relayers may bring a price equal to new rails, and in some conditions of the market, even a higher price than new rails. This, however, is unusual.

When light rails are used, up to about 24 lbs., it is becoming quite common to use what is termed "industrial track." Such tracks, on special orders, may be made of heavier rails, but these are unusual. The distinction between industrial track and ordinary tracks is that of construction and method of laying.

The ordinary track is laid upon wooden ties, each rail being laid and spiked to the ties separately, either in the opposite or alternate joints, and when it becomes necessary to move such track, it must be torn up and relaid. The industrial track is generally made up in sections, ranging in length from 10 to 20 ft., the rails having opposite joints and being fastened to flat metal ties by clip bolts, or some patented contrivance. These sections are put together in the factory or are shipped knocked down and assembled in the pit. Once put together in sections, they are kept in that form and are laid and bolted together in the plates, and taken up and moved to new places. The lighter weight industrial tracks can have sections handled by two men, while the heavier weights require four laborers to handle them. Switches likewise come in sections. In many cases switches are not used, but cast into turn tables, which can be moved almost as readily as the track sections. It is the great ease of moving the sections and parts, that makes the industrial track economical.

WOODEN TIES USED FOR INDUSTRIAL TRACKING

If industrial tracks are to be kept in one position long it is advisable to use under the metal ties a light wooden tie. This should be from 1 ft. to 2 ft. longer than the metal tie and several inches wider. Thus greater bearing surface is

given to the track and the metal tie is prevented from sinking into mud. If it is desired, the metal tie can be fastened to the under tie by means of wire nails, but this is not absolutely essential. It is poor practice to place wooden ties between the metal ties, as full advantage in bearing surface is not obtained from either. If the wooden tie is placed under the metal tie, they can be tamped up tight and the track easily lined. Heavy planks cut to lengths can be used for wooden ties. As a temporary expedient, long planks can be laid lengthwise under the metal ties and directly under the rail.

Various gages are used for tracks in mines and clay pits, depending somewhat upon the size and type of the cars and also upon the motive power used. For cars pushed by men gages of 18 and 24 inches are common, but this means that cars not exceeding a ton capacity are used. Also 30 and 36-inch gages are used for hand propelling, as well as for mechanical power. Over these gages the American standard track gage of 4 ft. 8½ inches is the one in use. This means that large cars and locomotives are used.



A Big Man From the Land of Big Trees

By Victor R. Jose, Jr.

Ole Hanson!! A name to conjure with. And yet a few days ago unknown outside of the West Coast, probably outside of the Northwest. The world was not interested in Ole—then. Few people would have listened to any exposition of his virtues, even had his official position been mentioned.

Overnight, the mayor of Seattle makes himself known and respected, not only in the stunned city of Seattle, but over the world. He has become in typification almost an international figure.

"Any man who tries to take over the Government functions will be shot on sight."

Ole's statement has become a battle cry for the forces opposing Bolshevism. And the facts, which the statement intimated as existent, are typical of the situation that the mayor of Seattle had to face; that other mayors will have to face if Bolshevism has its way in America.

AN EXAMPLE WORTHY OF EMULATION

The West, from out the magnificent solitude of its primeval forests has sent forth a leader with foresight strengthened by his contact with the bigness of nature. And, like the giants of his forests, he has nothing small or petty about his decisions or purpose. As an American citizen, elected to represent the people of his city, he had carried on the duly constituted government at the city hall. And, said Ole in the midst of the strife, *"The seat of the Government is still at the city hall."*

The West can well be proud of its citizen. And it will be prouder still if the rest of the nation takes heed of the lesson for which it has had to pay and learns the moral of its victory. Ole Hanson has pointed the way for the rest of the country to follow when it faces this problem in acute form, as it may sooner or later.

In the midst of all the problems of the after-war period, with reconstruction and adjustment facing business, one of its most serious, and yet not impossible of solution, is that of Bolshevism. Not impossible of peaceful solution because there are so many factors that will influence the situation, in the United States, which do not figure in Europe.

Stringing Pyrometer Wires

All sorts of methods may be seen of stringing pyrometer wires around the kilns on clay plants. In some cases the arrangement looks like the clothes lines in the tenement district on the East Side, New York City. The wires run in all directions and hang very loosely. By hanging loosely and unsupported at proper intervals the pyrometer wires are easily blown down in storms and depreciate at a greater rate.

A method of stringing wires which has been found very satisfactory and at the same time economical is that devised by Charles Carter, of the Peoria (Ill.) Brick & Tile Co. He uses a No. 10 gage galvanized iron wire which he strings very taut thruout the entire plant. The pyrometer wires are then carried by this galvanized iron wire being supported by tape wound around the entire string at about five foot intervals. By this method there is eliminated a very great amount of tension in the pyrometer leads which would be detrimental to the wires. The leads do not hang loosely and need very little attention.

BOLSHEVISM A MENACE TO ORGANIZED LABOR

To begin with, the trade unions are showing on all sides that they are waking to the fact that Bolshevism holds nothing but a menace for organized labor. The way in which certain internationals rebuked locals at Seattle for the strike, proclaims this tendency. Bolshevism aims to destroy the organization of labor; it aims to place in its stead the individual and the action of the Soviets. All the power and the influence which labor leaders have wrung from the so-called capitalistic class in the years past would be swept away at one blow. If for no other reason than self-interest, the labor leaders will try to hold their men in line.

Of course, if we try to go to extremes and force across an immediate return to the minimum pre-war conditions for labor, taking away the privileges and prestige which labor has gained, and run the nation exclusively in the interest of the people with capital, then we will have to take the consequences.

But above all, since we will not be so foolish as to try to go to any extremes, the factor that will be the basis of the greatest safety is the Americanism of the masses. They are not reacting from conditions of repression as are the European peoples. They are more universally educated. And they will in consequence be able to consider the coming situations in that light and with that advantage. The problem therefore resolves itself into one of giving them the opportunity to consider the situation; the opportunity to consider Bolshevism and what it offers and what it brings in its train. Once they see that the results are not to their benefit, they will have none of it.

IT IS UP TO YOU!

The only way in which they can be effectively helped to see, is by those who can lend assistance, doing so by publicity. Get the facts before them. You who are manufacturers, you who handle labor, you business men who hire labor, all who have the interests of the country at heart, get on the job. You have something to sell—the future of America! See that they know the advantages of your goods. See that they know the failures, the faults and perils of the other fellow's wild dreams. Remember above all that it is up to you—if they go Boshevik it is because you are not selling your goods. Remember Ole Hanson's courageous, potent Americanism, and *"sell them."*

IN *the* WAKE *of the* NEWS

Being a Brief Mention of a Host of Interesting Happenings in the Varied Fields of the Clayworking Industry

Personal

Charles Frank, sales manager of the Nelsonville (Ohio) Brick Co., has returned from a business trip to Jackson, Mich., where he was present at the letting of a street paving contract.

Edward Brash, formerly of the Hydraulic-Press Brick Co., and more recently with the Cuyahoga Builders' Supply Co., has joined the sales forces of the Cleveland (Ohio) Clay Products Co., Leo A. Kreuger, president. He will have city territory for the present.

W. L. Cremers, formerly with the Philip Carey Co., Cincinnati, Ohio, has become sales manager of the R. B. Tyler Co., Louisville, Ky., succeeding Leo M. Parson, recently resigned. Wm. Whaley, formerly a captain in the army, has become manager of the brick sales department, succeeding the late Isaac H. Tyler.

Frederick W. Mack, of Windsor, Conn., formerly in the brick manufacturing business in that place, died on April 14 at Lake Helen, Fla., where he was spending the winter. Mr. Mack was born in Windsor and had always made his home there. He had been in poor health for some time and had spent the winters in Florida. He formerly was associated with his father in the brick business.

Ceramists and friends of Ross C. Purdy, research engineer for the Norton Co., of Worcester, Mass., and prominent in American Ceramic Society activities will be glad to learn that he has just returned from a trip to South America, which he took in order to improve his health. Mr. Purdy is one of the American Ceramic Society's most ardent boosters and has always been very much interested in the progress of the clay working industry.

California

A one-story brick addition to the factory of the Auto Paint Co., at 18th avenue and 12th street, Oakland, Cal., is to be erected in the near future. James W. Plachek is the architect. The estimated cost of the building is \$10,000.

The brick yards at Granada, Cal., are now employing a number of men. At present the daily output of the plant is more than 10,000. Brick for the new bank building is made at the Granada plant.

Architect Charles W. McCall, Central Bank Building, Oakland, Cal., has completed plans for the addition to the office building of the Rober Dollar Co. at California and Battery Street, San Francisco. There is to be a five-story Class A addition to the present five-story building.

Contractor Paul Messner, San Francisco, Cal., has been awarded the contract for the erection of a \$10,000 brick garage in Potrero avenue in this city. He also has charge of alterations to a two-story brick store and loft building in Oakland, Cal., calling for an expenditure of \$15,000.

A building contract which will no doubt create considerable interest among local concerns is the new home of the Bank of Italy, which is to be erected on the northwest corner of

Powell and Market streets, San Francisco, on the present site of Techau Tavern. The plans for the new structure are now on exhibition at 77 O'Farrell street and represent many new features in banking architecture.

Construction work on the new \$70,000 building for the Berkeley Baptist Divinity School in Dwight Way, is to be started in the near future. The plans, which were prepared by Miss Julia Morgan of San Francisco, call for a brick and concrete structure, which will be used for class rooms and offices with a west wing which will contain the library. A second unit will be added later.

P. J. Walker & Co., San Francisco, Cal., have been authorized by the Standard Oil Co. to commence construction work immediately on two new buildings at their plant in Richmond. Both of the structures will be three stories with concrete, frame, brick and terra cotta exteriors. One building is to be an office, costing in the neighborhood of \$250,000, and the other a laboratory on which \$175,000 will be spent. Architect George W. Kelham has prepared the plans. The Standard Oil Co. is beginning the work at this time, feeling it a duty to help stimulate activities to assist in absorbing the excessive labor.

Idaho

About fifteen men will be employed in the resumption of operations of the old Idaho Brick Co. plant at East Lewiston, Idaho.

A brick machine purchased by Neglay Bros. has been installed in the rear of a carpenter shop in Kuna, Idaho, where it has been in operation recently. The capacity of the machine is 10,000 brick daily, but so far they have been running a short crew and putting out only 3,000 brick per day.

Indiana

An increase of capital stock of from \$200,000 to \$450,000 has been made by the Terre Haute (Ind.) Vitrified Brick Co.

The Riggs Clay Products Co., of Sullivan, Ind., filed final certificate of dissolution, according to the records in the office of the secretary of state.

Twenty-three more miles of brick roads in Wells County are asked in two petitions filed recently with the county commissioners at Bluffton, Ind. The two proposed brick roads would connect with other brick roads in another part of the county.

Gary is the banner home-building city of Indiana. Since the first of the year, Gary has placed more buildings under construction than all of the other second-class cities of the state combined, and has in the same period placed more buildings under construction than Indianapolis, which has four times greater population. A large number of brick apartment and store buildings are in the course of construction at Gary at the present time and it is understood that permits will be taken out for many more during the month of May. More than \$1,000,000 worth of building permits were issued in Gary for the first three months of the year.

The record of building permits and the reports received of the construction of residences, business properties and institutional buildings in Indianapolis and thruout the state of Indiana is taken as an indication by clay products manufacturers and dealers, as well as others connected with the building trades, that the long-looked for revival in building is at hand. Whether or not prospective builders have reached the conclusion that prices of building materials and labor are to remain at present level for some time to come, is not known definitely, but one thing is certain and that is that building operations are showing a decided increase each month.

Iowa

The National Clay Works plant at Mason City, Iowa, which was destroyed by fire last winter, is now in course of reconstruction. The plant which will be modern in every respect is to be located at plant number one, south of the Clear Lake paved road. It is expected that it will take at least four months to rebuild and install the machinery.

Kansas

According to reports there is a big demand for clay products for the building of school houses, hotels, city buildings and churches in southern and central Kansas. It is said that very few homes are being constructed altho in some localities the farmers are building country homes of clay material.

Kentucky

The Coral Ridge (Ky.) Clay Products Co. is operating about one-half capacity on tile and brick, but expects shortly to be able to operate on a nearer to full time basis.

A. E. Livingston, manager of the Louisville (Ky.) Builders' Supply Co., is very enthusiastic concerning the outlook, and reports that if business continues picking up like it has, things will be very active within a month or six weeks.

The Hillenbrand interests, operating the new Progress Press Brick Co., Louisville, Ky., which succeeded the Hillenbrand Brick Manufacturing Co., are now busy getting a stock ahead, and are filling and burning several kilns of brick, altho no large orders are on the books.

Arrangements have been made for holding a meeting of the Eastern Kentucky Division of the Kentucky Clay Products Association at Lexington, Ky., soon. T. Bishop, of the Southern Brick & Tile Co., Louisville, Ky., and James T. Howington, of the Coral Ridge Clay Products Co., expect to attend the meeting, altho it is out of the local district.

The prosperity of Louisville is shown in the recent reports of one of the labor boards in Washington, which announced that Louisville was one of six cities in the country which had a labor shortage. At the same time bank clearings and deposits are above normal. The Fifth Victory Loan got a flying start, when the Belknap Hardware & Manufacturing Co. subscribed \$500,000.

Louisville, Ky., brick manufacturers report that there is an excellent volume of stocking orders coming in from the rural districts. Right now the farmers are busy in the fields, but they are well fixed financially, and plan much building. The farmer knows what he will get for his wheat this year, has a large acreage, and fine crop prospects. He is able to borrow money on his wheat prospects this year.

From the amount of projected building, which does not include the large number of residences, apartments, etc., it would seem that if business ever does start coming the supply trades will be swamped in taking care of it. About forty contractors and supply dealers of Louisville, Ky., have

plans by Joseph & Joseph for a \$300,000 apartment on Eastern Parkway, to be erected by the Co-Operative Contracting Co., as an investment.

Mayor Smith, of Louisville, Ky., has started discussions relative to a \$5,000,000 bond issue for new sewers in Louisville, as a result of several petitions from residents in suburban territory which is to be taken over under an annexation ordinance. This issue could not possibly result in any business for a year or so, but it is encouraging, and has the full backing of the manufacturers of sewer pipe, brick, and other clay products.

"We're very well satisfied with the showing made during the past few weeks," said Patrick Bannon, Jr., of the P. Bannon Pipe Co., Louisville, Ky., who in continuing said: "We're getting an excellent volume of rural business, and feel that the farmers are going to be very good buyers this year. The city building outlook is picking up daily. Good reports are being heard from Lexington, Paducah and other points, and we feel very optimistic."

Lexington, Ky., has more than \$3,000,000 of new construction in sight, including a \$200,000 addition to the Phoenix Hotel, and a new hotel to cost a million dollars. The W. J. Flesher petroleum interests have plans for a 2,000 to 5,000 barrel oil refinery. At Hickman, Ky., and Jeffersonville, Ind., plans are being drawn for \$50,000 Masonic buildings. At New Albany, Ind., P. N. Curl & Co. have plans for a \$75,000 warehouse. Scottsville, Ky., interests have taken bids on a new hotel to cost between \$50,000 and \$100,000. Frankfort, Ky., has two hotel projects under consideration, and Bowling Green has one.

If one-half of the proposed buildings were constructed in Louisville and the state of Kentucky this year the building supply houses and brick men would most certainly feel that they were taking a prominent part in a gilded age, but while there are several millions mentioned in projects the actual percentage of building that will be undertaken this year may not run into large figures. The one interesting feature of the situation is that orders are picking up rapidly, and where orders were for very small lots a few weeks ago some concerns are now securing regular delivery orders. This is aiding things somewhat.

Brick manufacturers of Louisville, Ky., report that prices are at about rock bottom on clay products of all kinds. Altho some houses are selling brick at \$16 on board cars, as against a price of about \$20 last fall, it is claimed that no further reductions are likely unless either labor prices or freight drop. Freight rates stand very little chance of being reduced, due to the labor situation there. Common labor is now getting a minimum of \$3 a day in brick and other plants, and the manufacturers are making no effort to reduce wages, feeling that the drops will have to first come elsewhere.

The campaign of the Louisville (Ky.) building interests, under which full page advertisements and publicity matter will be used in the local and state papers in order to encourage spring building, is to start very soon and is expected to aid somewhat. The various women's organizations have also become active in efforts to improve housing facilities in Louisville, and are behind a campaign for more and better residences and rental property. In this connection a campaign is being started to show up some of the old hovels and tenements in Louisville which are a disgrace to any city. These movements are good and should result in Louisville becoming interested in property improvements.

J. H. Bell, sales manager of the Louisville (Ky.) Fire Brick Works, reports that his company hasn't quite caught up with old orders, many of which were carried over from 1918,

but that it would be up about May 15, and from then on would run on stock unless new business breaks. For months past the company has had practically no stock on hand, and unable to secure any. Prospects for new business are not especially encouraging in the fire brick business, as the steel manufacturers have made all the enlargements they are likely to make for a year or two, and during the adjustment process many steel mills are down, and not even buying the customary quantity of fire brick for repairs. Oil refining prospects look interesting, however.

Maine

The Aiston Clay Works, of Augusta, Me., has been incorporated under the Maine laws, with \$100,000 of common stock and \$100,000 preferred. D. A. Leland is president; G. M. Benson, treasurer; and C. L. Andrews, Clerk.

Massachusetts

The city of Boston is doing, or planning to do, a large amount of street construction work during the spring and summer months. The work will be largely of a permanent nature.

Brick manufacturers in Massachusetts continue to report a light demand. There are few really big orders and even the smaller ones do not come in as rapidly as the dealers would like to see them.

The American Brick Co. of Medfield, Mass., has been incorporated with a capital of \$500,000. The incorporators are Walter H. Foster, Alva M. Peterson, and Roy J. Foster, all of Boston.

Nearly 20,000 young men, members of the famous 26th division, recruited exclusively in New England, have just returned from army life to civilian pursuits. What the effect of this big outpouring of men from the army will have on the labor situation in Massachusetts is a question that is being followed with interest. In many circles a gradual reduction in labor costs is looked for as a result of the many soldiers who are leaving the ranks every week and builders are only waiting for some tendency toward lower prices to start work on much delayed construction.

Michigan

It is reported that Charles E. Clippert, of the Clippert Brick Co., Detroit, Mich., has stated that a shortage of building brick encountered by some contractors in the rush of building work going on in Detroit was due entirely to a scarcity of labor. It is said that some of the brick manufacturers have had to let their machines remain idle because of a lack of sufficient help.

Missouri

The Missouri Training School, at Boonville, Mo., has rebuilt an old brick plant in that city at a cost of \$10,000 and prepares to operate at about a 15,000 brick daily capacity.

H. L. Peters, of the Laclede-Christy Clay Products Co., St. Louis, Mo., reports business with dealers continues good and shows an increase week by week. Shipments of small orders are far in excess of others. He said the Laclede-Christy company is figuring on several large deals in St. Louis and a number out of town.

Several new apartment-hotels will be built on Pershing Avenue in the 5300 block during the next few months. Almost every day one or more permits are issued for this popular type of dwelling. One of the latest issued is for a \$300,000 structure at 5370 Pershing Avenue to be built for an unnamed owner by the Portorico Realty Co.

Employees and officers of the Hydraulic Press Brick Co.'s business office, Century Building, St. Louis, Mo., were the second St. Louis office to subscribe 100 per cent. to the Victory Liberty Loan. A few minutes after the campaign opened, Frank C. Aschemeier, salesmanager of the company, announced the blanket pledge.

The Morgan-McCullough road bill has been signed by Governor Gardner of Missouri, repealing the Hawes Road Law, which provided for a system of hard-surface roads thruout the state. The new law commits the state to a policy of dirt roads, which was opposed by manufacturers, automobile associations and the St. Louis Chamber of Commerce. The governor strongly defended the bill.

Commissioners were appointed Monday, April 21, by Circuit Judge Taylor to assess damages and fix the assessment district for the establishment of King's highway from Easton avenue to Penrose Park, St. Louis, Mo., a stretch of 16 city blocks. W. W. Horner, engineer in the Department of Streets and Sewers, said that the work would cost approximately \$165,000. The project was begun in 1909 but was held up by objection of property owners. It will now be rushed to completion.

Fire destroyed a two-story building of the Parker-Russell Mining & Manufacturing Co., St. Louis, Mo., April 25. George Southwick, superintendent of the plant, estimated the loss at from \$60,000 to \$75,000. The blaze originated in the silica department, in which was stored raw material for the making of fire clay products. The fire, which was visible for a distance of three miles, is believed to have been caused by crossed electric wires.

Among new work to be started in St. Louis, Mo., soon are the following: A bank building to be erected at Seventh and Locust Street at a cost of \$200,000 for the St. Louis Union Trust Co; a six-story theater, apartment and shop building on Delmar Avenue, west of Clara Avenue, under the supervision of the Delmonte Investment Co.; a six-story apartment and shop building to be erected on Washington Avenue near Grand by the Hauschulte Realty Co.; an eight-story factory building to be erected at Twenty-first Street and Washington Avenue for the McElroy-Sloan Shoe Co.

What appeared to be a \$2,000,000 piece of work will probably be lost to St. Louis builders, as City Counselor Daues recently announced that the city could not become a partner in an arrangement whereby a convention hall would be owned jointly by private and municipal interests. As originally proposed, \$1,000,000 would have been provided for in the \$23,000,000 bond issue and \$1,000,000 would have been raised by private subscription. Under Daues' ruling this could not be done, but he suggests that the matter of a \$2,000,000 appropriation be put up to the Board of Aldermen.

St. Louis manufacturers are angling for supplying the material for a large sewer construction program in Maplewood, Mo., a few miles southwest of St. Louis. The contract has been awarded to John Meyre, a St. Louis contractor, but the work will not start for a few weeks. The work will require a large number of segment blocks and sewer pipe and is regarded as the biggest job since the Mill Creek contract in St. Louis was disposed of. This work, together with several other large projects being figured in this vicinity presents a bright outlook to manufacturers for the immediate future.

A boosting trade committee has been appointed by the Master Bricklayers' Association of St. Louis, Mo., it was announced by President Barry, following a recent meeting of members of the association. This is part of the general scheme in St. Louis to increase building activity on a large scale and the committee will take up the matter of the relative increased cost of construction and labor. The committee

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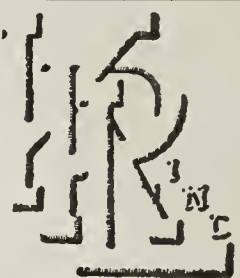


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will make its report in two weeks. Secretary Barry said that building has shown a slight increase in the last few weeks, but it is far from normal. The Master Bricklayers have been active in the preliminary plans for the "Own Your Own Home" drive which will be launched here soon.

Some idea of the large amount of work in sight for supply men is shown by a few items on the municipal budget already approved. One appropriation recommended is \$2,051,202 for streets and sewers and another is \$88,410 for a new brick hospital for negroes. More than \$600,000 is recommended for use in building and improving in public parks, which will also include sewerage. Several projects under the municipal bond issue, which is almost certain of passage, will also provide a big opportunity for supply men. Among them are municipal farm buildings, to cost about \$400,000; municipal bridge approach, \$1,100,000; industrial school farm improvements, \$150,000; and alteration of the city jail, \$85,000.

Brick prices remain unchanged, and local manufacturers continue in the belief that the market will not fall lower. It seems that builders have awakened to that fact to a certain extent and are putting delayed plans into execution. In St. Louis last month there were 644 buildings started, compared to 606 during the same period in 1918, according to figures furnished by Building Commissioner McKelvey. East St. Louis witnessed a 118 per cent. increase in building last month over the same period in the preceding year. Forty-two permits were issued in East St. Louis compared to 37 during the same month last year, the respective values being \$344,070 and \$119,429. Well informed observers declare construction conditions are about 65 per cent. normal and are rapidly increasing.

David Lawrence, the journalist, who paid St. Louis a recent visit, commends this city on its progress in reconstruction. Lawrence believes that St. Louis, as compared to other cities, will have little difficulty in adjusting itself to the after-war situation. He termed St. Louis an ocean port of the Middle West and believes that it will give a good accounting in the race for foreign business, especially in South America. The use of the Mississippi will be the means of making St. Louis one of the leading export centers of the world, according to Lawrence. Clay products manufacturers have already realized the advantage of water transportation to the South and several cargoes have been sent to the southern continent. Local manufacturers stand firmly behind the river men's latest demand that Congress immediately appropriate \$100,000,000 for completion of river projects.

The last fortnight in building circles in the Cleveland, Ohio, district has shown a remarkable improvement in demand for building materials over the early part of April. For the first time in the history of the brick business, according to H. H. Crowell, manager of the Cleveland Branch of the Hydraulic Press Brick Co., inquiries and orders for brick are coming in, for use in residence purposes, after contracts have been placed. As far as the clay products business is concerned, this and similar demand has resulted in an increase of from 200 to 300 per cent. over the business of a month ago. As the season has advanced here the demand has increased, so the prospects for a continuance of this business indefinitely seem good. It is variously estimated in local brick circles that even at the present rate of consumption, it will take two or three years for the building situation, as far as housing is concerned, to assume normal proportions. Latest estimates show that the Cleveland district still is 15,000 houses and apartments short of the number actually needed—and the city is not diminishing in population.

Nebraska

F. L. Nesbit, of the Omaha (Neb.) Chamber of Commerce, has suggested the establishment of a brick plant in Omaha. J. M. Gillan, director, and several members of the committee, were instructed to inspect adjacent beds of shale in company with brick experts, to see what the possibilities for the new business venture are.

The city council of Omaha, Neb., approved the mayor's new ordinance designed for the promotion of brick manufacture in Omaha. The ordinance provides that the council may approve or disapprove of prospective locations after the filing of applications with specifications of the plant, showing dimensions of smoke stack and other features. The ordinance is less restrictive than former legislation on this subject.

New Jersey

The firm of Phillips & Harper, of Trenton, N. J., has just received a large order for face brick sufficient to build one hundred houses to be erected near the Merchant's shipbuilding plant at Bristol.

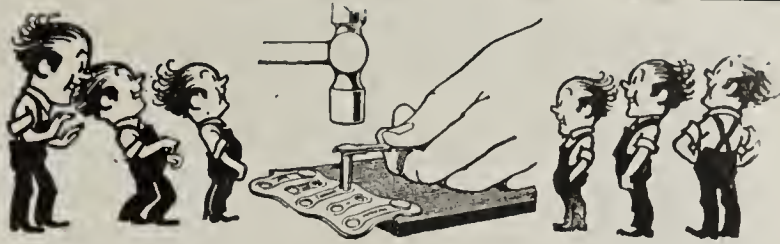
Following an idleness of six months, the large plant of the American Clay Products Co., of South River, N. J., started operations recently with a complement of 125 workmen. This is one-fourth of the working force when the plant is operating under full speed. However, the superintendent is optimistic as to the future prospects of the business and hopes to keep on hiring men until a full working force is employed.

The property of the Philadelphia & Boston Face Brick Co., of New East Brunswick Township, N. J., was sold publicly on April 30 by Sheriff Anderson to satisfy a mortgage held by the New Jersey Title Guarantee & Trust Co. There are two tracts of land included in the deal, one consisting of about 75 acres and the other about 14. There is a large factory building on the property and this together with the machinery and railroad sidings were sold.

While things in a building way are quite quiet at Passaic and vicinity, the indications are for a resumption of activities at an early date. In the April 22 issue of *Brick and Clay Record*, the prices for hollow tile in this district as given were prevailing quotations for dealers, and not the consumer, as inadvertently intimated. The current prices, delivered on the job are: 3-inch, \$108; 4-inch, \$120; 6-inch, \$168; 8-inch, \$216; 10-inch, \$252; and 12-inch, \$324 per thousand. Partition tile is selling as follows: 3-inch, \$90.10; 4-inch, \$98; 6-inch, \$132; and 8-inch, \$180, per thousand.

Building operations are at a minimum at New Brunswick, N. J., at the present time, but the outlook seems fair for a resumption of activities at an early date. The brick used in this district is, for the most part, from the plant of Sayre & Fisher, Sayreville, near Perth Amboy, and good hard common material is now selling for about \$19 per thousand, delivered on the job. Hollow tile is not much in demand, but prices are holding firm; a good grade fire brick is quoted at from \$85 to \$87.50 per thousand, delivered.

The Board of Trustees of Rutgers College, New Brunswick, N. J., has approved plans for the construction of a new building on the Queens Campus, as a memorial to the men from the college who died in the war. A special memorial day for these men who made the supreme sacrifice has been selected in Monday, June 9, the beginning of the commencement week at the college. The prospects



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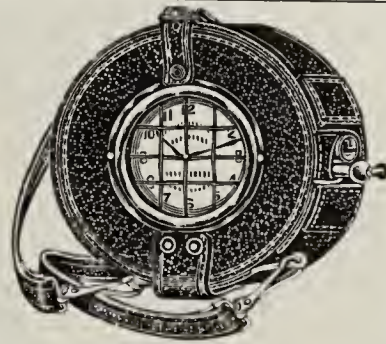
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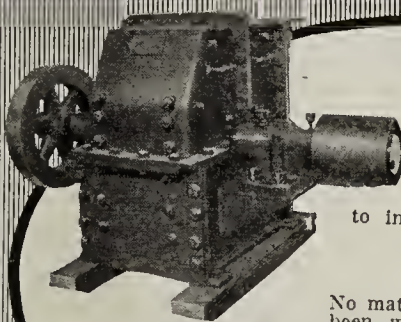
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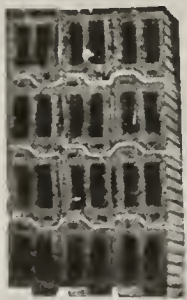
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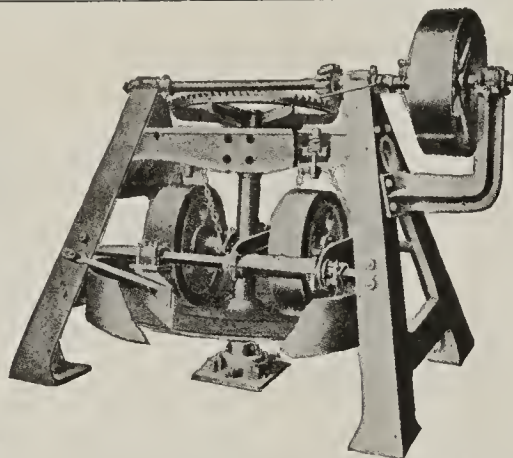
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are bright for the inauguration of increased activities in the ceramic department at the institution, of which Professor George H. Brown is director.

The Independent Brick Co., Trenton, N. J., is operating its two plants at Bordentown under normal capacity, and reports a fair demand for brick at the present time, particularly in small quantities. Small quantities to this concern, however, might readily mean a large amount for the smaller organization, as the sales are usually made on a basis of a million or more brick at a clip. Brick is now selling at \$16 a thousand at this company's yards. In speaking of the prevailing high and unreasonable freight rates, C. T. Dunham, of this company, sets forth that the freight rate per one thousand brick from Bordentown to Trenton, a distance of about six miles, is \$1.80, or a total of about \$36 for a carload of 20,000 brick.

The Hackensack (N. J.) Brick Co., one of the live organizations in this brick producing center, has made improvements and repairs at its works, to provide greater facilities in the production of the proposed run during the present season. Operations have now been inaugurated, and the company plans to continue right along at a good rate of output. A large quantity of brick, aggregating well over 1,000,000, are now stocked at this yard, making available a supply sufficient for all ordinary demands for the next month or so to come. The officials of this concern, M. B. and L. B. Gardner, view the outlook with no little optimism, and anticipate a good demand for brick during the rest of the year, and with accordant "big doings" in a building way in different parts of the state.

The Sneyd Enameled Brick Co., of Trenton, N. J., has resumed the manufacture of their high grade enameled brick, held up during the war. The enameled brick manufactured are impervious to the red ink test. The advantage of these goods over the ordinary enameled brick will be apparent when it is considered that glazed brick are often used in damp positions, such as subways, areas, etc., as the difficulty caused thru moisture and dirt percolating thru to the face may be entirely overcome by the adoption of impervious brick, which will show no discoloration, says C. T. Clarke, secretary of the company. The fire brick department of this concern is also quite busy, just now working on several orders for Philip's patent kiln bottoms, which are applicable to tile and pottery kilns as well as sewer pipe and brick kilns and are said to eliminate sulphur troubles and effect a great saving in fuel.

New construction work continues to increase in different parts of New Jersey. The predicted activity for the spring season in building circles seems to be well on the way towards realization, and reports from the larger cities of the state carry particular promise for the next few months to come. Thruout northern New Jersey, including Newark, Paterson, Jersey City, and Morristown, as well as in other localities as Trenton and Camden, the indications speak well for forthcoming work, and a few important projects are well on the way to early maturity. The constant unceasing demand is for housing accommodations, and efforts are being made to interest speculative money in work of this nature. It is held that after the Victory Loan important developments may be anticipated in this direction. There is no question but what the state, as a whole, is many thousands of homes short of actual requirements.

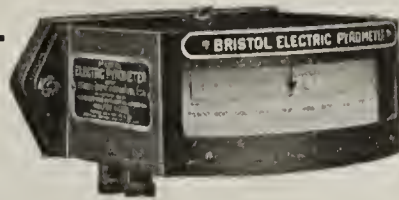
Altho Newark, N. J., leads in the urgent necessity for new dwellings and apartments, there is a lag in this type of construction at the present time, current activities of

moment being directed to a number of important industrial projects. The American Oil & Supply Co., Lafayette Street, has commenced the erection of its proposed new plant on Wilson Avenue, estimated to cost close to \$100,000; the Heineman Phonograph Supply Co., New York, is arranging for the early construction of a new four-story and basement plant, about 80x340 feet, on Thomas Street, near Goble Street, Newark, with cost estimated at \$500,000 for this first unit, it being the intention to erect a similar structure at like cost at a later date; the American Food Co. has plans under way for the construction of a four-story brick warehouse and refrigerating plant, to cost about \$130,000. Among the other interesting structures planned in this city are the proposed new addition to the Robert Treat Hotel, to cost about \$1,000,000, and a new clubhouse for the Newark Athletic Club, to cost an equal amount. These projects show conclusively that a strong building revival is under way in this district.

The Philips-Harper Co., American Mechanic Building, Trenton, N. J., a comparatively new organization, is going ahead in a big way in the promotion of the various burned clay specialties handled. The company has adopted the slogan—"Everything in Burnt Clay," and to scan the list of the various commodities sold, this phrase certainly expresses a truism. These products include face brick, common brick, enamel brick, sewer brick, fire brick, drain tile, hollow tile, partition tile, sewer pipe, building block, paving blocks, flue lining, and terra cotta. This organization is now representing a number of important manufacturers in this district, and is acting as the sole selling agent of the American Hollow Tile Co., with plant at Hightstown, N. J. Orders on hand will require the entire output of this plant for several months to come. Scott M. Feli, secretary of the Fell & Moon Co., has recently become associated with the Philips-Harper Co. as consulting engineer. He is a graduate of the Engineering Department at Rutgers College. Wilson A. Philips is president of the company, and Frank W. Harper, secretary and treasurer.

Building material prices apparently are becoming stabilized at current levels in all parts of New Jersey, a statement which is quite true for the entire eastern district of the country. The past fortnight has shown no drop in quotations on standard commodities, and the trend, if anything, seems just the other way. Burned clay products are operating under fair demand, and with slight scarcity of supply on certain items. For instance, good hard common brick at the prevailing price of \$19.50 per thousand, delivered on the job, is not plentiful at Newark and vicinity; the reason is stated as being due to the fact that the Hudson River brickyards, the principal source of supply, were not entirely successful in substituting wood for coal as fuel during the past season, and the insufficient runs made at the different New Jersey plants. There is a little Hackensack brick available, and this is now being placed to service in a number of instances. Common brick is selling for \$22 per thousand at Atlantic City, as well as at Morristown, while at Paterson, a price of \$17 is quoted; at Jersey City, the prevailing figure is around \$19. These prices are for good hard common material, delivered on the job.

After closing down its plant for about a week for much-needed repairs, the Hanover Brick Co., Morristown, N. J., has resumed operations at regular capacity at its works at Whippany, about four miles from Morristown. This yard produces a very high grade common brick from clay ob-



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On September 7, 1916, we shipped some of our No. 18 Union Steel Chain Belting, which operates on standard No. 88 sprockets, to the Haviland Clay Works, Haviland, Ohio. On March 5, 1919, we shipped them new pins for this chain, and have just received their letter, stating:

"We received the pins and cotters, and after re-pinning the chain, in use so many months, it gives as good service as ever. Your chain fills our needs exactly."

Write us for details which show how these Trouble Proof chains can fill your needs exactly.

THE UNION CHAIN & MFG. CO. Seville, Ohio

BUILDING SUPPLY NEWS

It increases your sales by advertising better ware direct to dealers.

It lowers your cost per thousand through increased production.

BUILDING SUPPLY NEWS
610 Federal Street CHICAGO

Rates and sample copy on request

Many plants have improved their ware, saved time and saved lots of fuel with a Price Pyrometer.

Any one of these savings justify a Price Pyrometer on your kilns.

We want to tell you more about them. Write us today.

The Price Electric Co.
12367 Euclid Ave.
CLEVELAND OHIO

Price Pyrometers



We Can Save You Time, Money and Trouble on Fire Brick

BECAUSE OF

Quality, Price and Service

Freight Rates on all R.R.'s in UNITED STATES and CANADA

A Trial Shipment Will Convince You. Write Us

ALSEY BRICK & TILE COMPANY
ALSEY, ILL.



Clean, profitable fuel for burning clay products. Used by some of the largest concerns in the clay products industry.

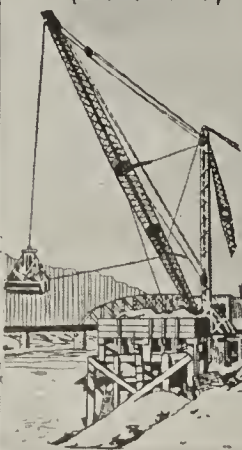
We are prepared to ship in any quantity and on time. 12,000 tons daily capacity. Ill. Central—C. & E. I.—C. C. C. & St. L.—C. & A.—U. P.

RUTLEDGE & TAYLOR COAL CO.
Fisher Building, Chicago
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"HERCULES" (RED STRAND) WIRE ROPE

(REG. U.S. PAT. OFF.)

Its Strength and toughness
make it durable, safe
and economical



THE ORIGINAL COLORED STRAND WIRE ROPE
MADE ONLY BY

A. LESCHEN & SONS ROPE CO.

ESTABLISHED 1857

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NEW YORK, CHICAGO, DENVER,
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tained in the immediate vicinity. A large run was made for the Government during the war period, and the product of the plant is in good demand for private enterprises at all times. The company has developed a stock of close to 6,000,000 brick at the yard, and hopes are expressed that a revival in building will begin to reduce this quantity at an early date. C. W. Ennis, president of C. W. Ennis & Co., Inc., Morristown, dealers in mason materials, is treasurer and secretary of the company, and engaged in the active management. At the Morristown building material yards, the company maintains a large stock of burned clay products, including common brick, fire brick, hollow tile, sewer pipe, etc. While things are quiet in a building way in this section at the present time, Mr. Ennis views the outlook with entire confidence, and is of the opinion that a revival in construction work will be evidenced at an early date. This is a particularly wealthy residential district, the city being the richest per capita of any other in the country.

New York

L. and A. Ginsberg and I. Lieberman have organized the Tecumseh Tile Co., with a capital of \$50,000, at Mount Vernon, N. Y.

Thomas Keiran, a Staten Island, N. Y., coal merchant and resident of Richmond Borough for twenty years, died recently. He was born fifty-eight years ago and was formerly a brick manufacturer at Haverstraw.

The Art Tile Roofing Co., New York, has been incorporated with a capital of \$10,000 to manufacture tile roofing products. N. R. Carrano, M. Chess and J. P. Caccione, 1569 East Thirteenth Street, are the incorporators.

The American Enameled Brick & Tile Co., of New York City, is now operating under a force of forty men compared with 225 men when there is a normal demand for their goods. This firm is especially hard hit at the present time as their product enters into the construction of the more expensive structures of which there are very few in process of building.

The Hay Walker Brick Co., New York, reports that things are picking up in a fair way, with a considerably increased number of inquiries for face brick, of which the company handles a great variety. Active cooperation is given to architects and builders by the estimating department of the organization, which is equipped to figure on plans calling for brick to a point of careful accuracy in requirements.

In speaking of the present situation in building work, the William Kennedy Construction Co., one of the leading concerns in Brooklyn and in close touch with big operations, holds that the Government is largely to blame for the present high wage scales, and which are still going on. It is maintained that if it would take its hands off and let things take their natural course that Brooklyn would soon start on one of the biggest building programs in the history of the city.

C. M. Kruger, of New York City, and others have purchased from Thomas C. Vernon, of Mechanicsville, N. Y., a tract of land located across the Hudson River, about one and one-half miles northeast of Mechanicsville, in Rensselaer County. Mr. Kruger and his associates will engage in the manufacture of wire-cut building brick. It is planned to build a plant of about 30,000 brick daily capacity. The new company already has a quantity of lumber on the site and has arranged for the purchase of brick machinery.

There is no change in the price of common brick at New York, the same quotation of \$15 per thousand wholesale, for the best grades, as for some time past, still holding—and holding firm. It is very doubtful if there will be any change in this figure for some time to come; while the market offers a good supply, it is not flooded, and really good, hard common stock, with blemishes, is not so easy to obtain. Other burned clay products hold well at present prices, including face brick, hollow tile, sewer pipe and other popular specialties. Face brick ranges in price from \$25 to \$46 per thousand, delivered on the job; hollow tile holds steady at from \$63.75 to \$153, for different sizes, delivered in Manhattan. The mason material dealers view the upward trend of trade with great hopefulness and there is a much brighter attitude prevailing.

The revival of activity in the New York brick market, noted in the April 22 issue of *Brick and Clay Record*, continues with increasing zeal. During the past fortnight a total of 36 barge loads of brick were sold for distribution primarily in different parts of the city; the largest demand has come from Brooklyn. This means that an aggregate of over 14,000,000 brick have been made available at the yards of building material dealers and for immediate enterprises, and shows conclusively the trend towards a revival of construction work in a really big way. The Hudson River brick plants have not as yet commenced operations to any point worth recording, and it is a matter of speculation as to just when the different yards will inaugurate production. There is still a great scarcity of good common labor, and with the uncertainty of the demand for brick during the coming season, manufacturers unquestionably are hesitating in the commencement of plant operations. In the meantime, the yards are pushing up prior to active work.

As might be expected, New York is taking the lead in new construction work thruout the eastern part of the country, and in all the boroughs of the greater city the Building Department records show increasing number of plans filed for new structures. Among the more notable enterprises which have developed during the past fortnight is the erection of a new twenty-story office building at 27 West Forty-third Street, running thru to West Forty-fourth Street, to be known as the National Association Building; the structure will be erected by Fred T. Ley & Co. for the owner, James T. Lee. It is estimated to cost \$2,500,000, and will be faced with Harvard brick and limestone; it is planned to inaugurate construction early in May. The League for Political Education, the Economic Club, and the Civic Forum are arranging for the construction of a new hall in the Times Square district to be used jointly by the different organizations. The structure will be located on West Forty-third Street, and exclusive of site, will cost about \$500,000; McKim, Mead & White, New York, are architects. In the Long Island City district there is great activity in industrial enterprises; a number a large confectionery plants will be erected in this vicinity for New York concerns, while the Lauraine Magneto Co., Inc., a new organization, has had plans prepared for the construction of a three-story brick and steel factory, about 100x150 feet, to cost \$125,000.

Ohio

The Fireproof Stone Brick Co. has been incorporated in Cincinnati, Ohio, with a capital stock of \$50,000. The

Stanley Belting

Transmission--Elevating--Conveying

Back of every operation in your plant lies—power. To transmit that power, to get the maximum service from it for elevating and conveying, requires belting particularly adapted to the requirements of brick and clay plants.

Stanley Solid Woven Cotton Belting has a special construction that makes the fabric cling to pulleys. No slipping on brick machine drive. No buckling on small pulleys. Being waterproof, it absorbs no moisture from damp or wet materials. Nor is it affected by wet and dry weather.



Stanley Belting is immune to the action of dust, grit, oil, heat and acid. It has no plies, laps or stitches to come apart. Order a trial length now.

Stanley Belting Corporation

32-40 South Clinton St.

CHICAGO, ILL.

Sizes from 1/2 to 42 in.

DOES YOUR PROFIT GO UP IN SMOKE?

Canton Rocking and Dumping Grates in your plant mean a large saving in fuel, or a greatly increased production with the same amount of fuel.

By improving combustion, they make a coal saving of at least 10% in comparison with stationary grates. Peak loads can be maintained easily.

If you are interested in cutting down fuel cost and improving combustion, write for Bulletin B, Form 14.

Canton Grate Co.,

1706 Woodland Ave., N. W.
CANTON OHIO

**CANTON GRATES SAVE FUEL
FOR BOILERS FOR KILNS**

Perforated Steel Screens

Of Every Description

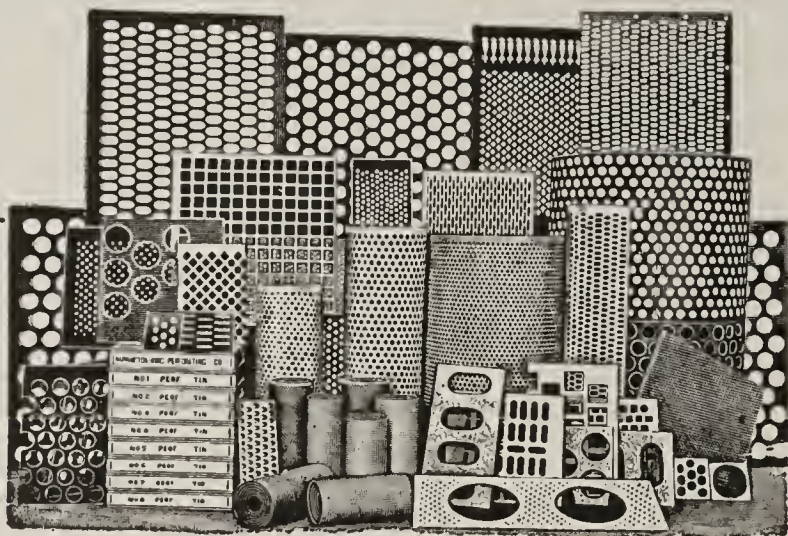
For Screening Clay, Shale, Sand,
Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity,
Durability and Satisfaction

The Harrington & King Perforating Co.

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NEW YORK OFFICE: 114 Liberty St.



You won't have to worry about competition
if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick
will be

Scum-Proof

You can get a higher price and influence
architects to specify your product because
Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's de-
pendable.

*We have a complete line
of high grade chemicals
for the clay industry*

**The Roessler & Hasslacher
Chemical Company**

100 William Street

New York

Chicago, Ill.

Cleveland, O.

St. Louis, Mo.

Kansas City, Mo.

San Francisco, Cal.

Philadelphia, Pa.

Boston, Mass.

New Orleans, La.

Cincinnati, O.

incorporators are: C. F. Wendeln, C. R. Lingo, F. W. Rotert, Esther Schiff and Harry H. Shafer.

A meeting of the Ohio Paving Brick Manufacturers' Association was held at the headquarters in Columbus, April 29, to discuss routine matters. Practically the entire membership was in attendance.

The large brick plant of the Hocking Valley Products Co. at Greendale, Ohio, has resumed work again after an idleness of three months. The commencement of operations again gives employment to several hundred workmen.

The contract has been awarded for the construction of a large Science Hall at Otterbein University, Westerville, Ohio. The contract for the face brick to go into the building has been awarded to the Ironclay Brick Co., of Columbus.

The Liberty Clay Products Co., of Youngstown, Ohio, has been incorporated with an authorized capital of \$500,000 to manufacture brick, tile and other clay products. The incorporators are Fred R. Kanengeiser, James W. Morgan, Union C. DeFord, Clyde W. Osborne and J. W. Blackburn.

The Central Refractories Co. has increased its incorporation from \$10,000 to \$1,500,000, and plans to make its headquarters at Newark, Ohio. The Central Refractories Co. has plants at New Lexington, Shawnee and Moxahala, near Zanesville. It manufactures face brick as well as fire brick.

Further plans concerning the establishment of the United States Clay Products Co., in the Asher Cooperage factory building in Sandusky, Ohio, are expected to be announced very soon. The company at first expected to be known as the American Clay Products Co., but it recently decided to use the other name. The firm will make porcelain insulators and similar products.

County Surveyor Dun in an address before the Southwest Advancement League of Columbus, Ohio, told his auditors that only 400 miles out of 1,200 miles of highways in Franklin County were improved. He declared that bituminous roads were the best for the county and said that by the expenditure of \$500 a mile each year they could be kept in excellent condition.

The vetoing of the taxation bill, which provided for an increase in the tax levy of certain political subdivisions for the purpose of furnishing money for public work was quite a blow to contractors and brick manufacturers generally. The Ohio Legislature has not yet adjourned and there is talk of a substitute being adopted in order that a good deal of the contemplated public work can go forward.

The Ohio Board of Administration has closed a deal for the purchase of the brick plant at Junction City, which has been operated by the state under lease for the past five years. The price paid for the plant was \$59,752.50, of which \$20,000 was in cash and the balance is payable before January 1, 1920. The property consists of 35 acres of land with a well equipped paving brick plant. Under the lease the state paid rental of \$4,000 annually for the plant. Immediate possession is secured by the state.

The Madison Tile Co., of London, Ohio, has reorganized its company and applied for \$60,000 incorporation papers. The new incorporation adds two new men to the concern. They are Reed Chresman and Harford B. Welsh. The members of the old concern still retain their interest and are Samuel, Harry and C. B. Van Cleve. The new organization will equip the plant with modern

machinery and increase its output of drain tile. Two new kilns are to be constructed at once.

The annual meeting of the Ohio Shippers' Association, with which many brick manufacturers and shippers are affiliated, was held in Columbus, April 25, with a fairly large attendance. Routine matters connected with shipping questions were disposed of. The question of rates was not discussed, as it was believed that rates could be adjusted by the Railroad Administration without public discussion. F. M. Renshaw, acting traffic manager of the Cincinnati Chamber of Commerce, was elected president. J. W. McCord, who has been secretary for a number of years, will likely be continued in that capacity by the executive committee.

Statistics gathered by several agencies in Columbus, Ohio, show a marked shortage of homes, which is now estimated at close to 2,000. The situation is constantly getting more strenuous, especially since the announcement of the removal of the Allen Motor Co. from Fostoria to Columbus. This will mean the employment of approximately 1,000 men, many of whom will be newcomers to the Buckeye capital and homes will have to be provided. This situation, considered in connection with the building industry, causes a good feeling in building supply circles. Houses must be built, and already contractors and architects are busy figuring on new work. Most of the work so far is in the form of dwellings and apartments, altho there is a fair sprinkling of smaller business structures.

There are quite a few large business blocks projected in Columbus and central Ohio territory at the present time. The Franklin Building & Loan Association will soon open bids for a six-story building block at Main and High Streets, to cost in the neighborhood of \$115,000; the Columbus Pharmal Co. will soon award the contract for a large addition to its plant on Oak Street; H. A. Marting is taking bids for a large theater and office building at Ironton, Ohio; the Ohio Board of Administration is taking bids for the erection of an addition to the dining hall at the Gallopis institution for epileptics; and Harry J. Schwartz will soon start the erection of a large business block at Grant Avenue and Broad Street, to cost about \$100,000. Many other projects are under way.

Pennsylvania

President Arthur Krause, of the Sharon (Pa.) Clay Products Co., announced an increase of capitalization to \$125,000 recently. He also stated that the company would spend \$25,000 for the installation of new time and labor-saving machinery in the plant.

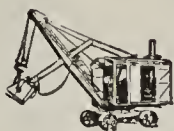
There is little or no change in the prices of standard building materials at Philadelphia. Common brick is selling for about \$16 per thousand for good hard common stock. Hollow building tile is quoted at \$60 per thousand for 4x5x12 in. and \$94 per thousand for 5x8x12 in. Partition tile varies from \$89 and \$90 to \$92 per thousand. Local building material dealers are holding up their stocks in anticipation of the expected demand; prices show no inclination to decline and there is a decided firmness to present quotations.

The Roman Mosaic & Tile Co., Inc., Philadelphia, manufacturer and dealer in ceramics, tiles, etc., has been consolidated with Vincent Cianci & Co., 3428 Warren Street, Philadelphia, engaged in the same line of work. The Roman company for the past 20 years has been located at 435 Green Street, and is well known for its high grade production in this section. The new organization will be known as the Roman Cianci Co., Inc., with offices at the

ERIE Shovel owned by
Jackson-Bangor Slate
Co., Pen Argyl. Pa.



**"Very
Economical"**



Serves as
Steam-Shovel
or Crane
(Clamshell)

"During the past year we have moved approximately 50,000 cu. yds. of slate shale with our ERIE Shovel. It is a wonderful machine, ideal for our work, as it is easily moved. We find it very economical and inexpensive. We are very much pleased with our investment." N. M. Male, Sec'y, JACKSON-BANGOR SLATE CO., Pen Argyl, Pa.

The ERIE Shovel is easy to operate, and very speedy. It is built with extra strength all the way through, and gives steady service in hard shale.

Let us send you full details about the ERIE Shovel, and what it will do. Write for a copy of Bulletin B.

BALL ENGINE CO., Erie, Pa.

Builders of ERIE Steam-Shovels and Locomotive Cranes, BALL Engines

ERIE Revolving
Shovels



WATERBURY WIRE ROPE



Waterbury Wire Rope is good enough to take care of. Just because it is so well made and of such good material that it will give unusually long service under severe conditions anyway, is no reason for neglecting it. Waterbury Wire Rope **deserves** as good treatment as though it **had** to be "nursed."

Wire ropes should be coated occasionally with some suitable material to prevent rust or corrosion and to lubricate the strands. They should also be examined frequently and a new rope ordered before the old one is worn out—though this interval is a long one if you use Waterbury Wire Ropes.

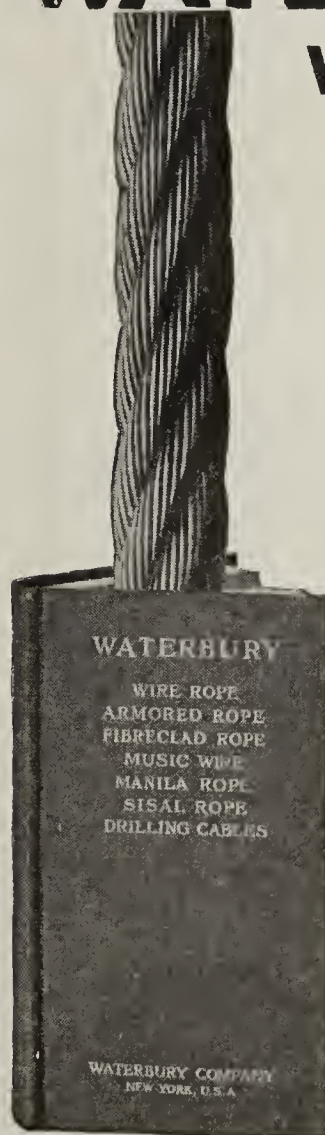
CATALOG HANDBOOK

A 220-page cloth bound Rope Manual covering all kinds of rope—Fibre, Wire, Fibreclad Wire and Armored Wire will be mailed free upon request.

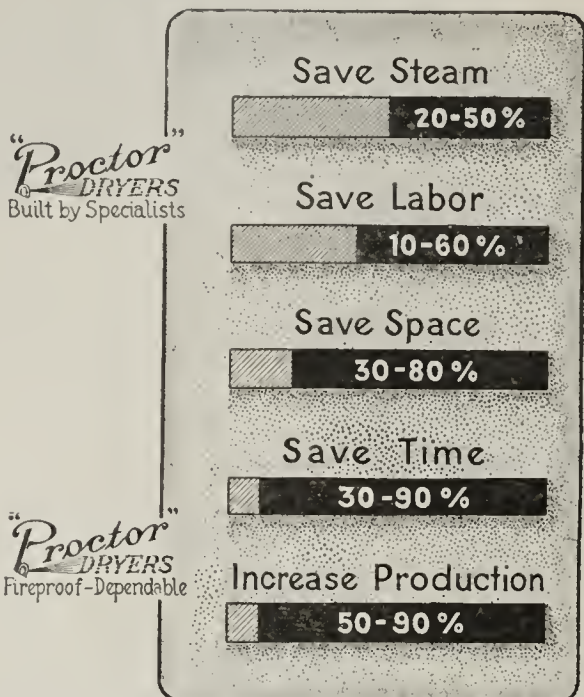
WATERBURY COMPANY 63 PARK ROW, NEW YORK

Chicago, 1315-1321 W. Congress St.
San Francisco, 151-161 Main Street.
Dallas, Texas, A. T. Powell & Company.
New Orleans, 1018 Maison Blanche Bldg.

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THE PROCTOR WAY THERE IS A PROCTOR DRYER FOR EVERY DRYING NEED



Backed by a Service Record of 35 Years

Ask for practical literature on drying and Proctor Dryers for your material.

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 Realty Building
 HAMILTON, ONT., CAN., W. J. Westaway, Sun Life Bldg.

Warren Street address and works at 3429 Filbert Street. Angelo Trevisan will be president of the new company, and Vincent Cianci, secretary and treasurer. The company is planning for extensive activities in architectural and building circles thruout this district.

In connection with the questionnaires recently sent out by the United States Department of Labor to afford a basis for an analysis of the building situation, it is interesting to note some of the replies received from Pennsylvania. Of those addressed, 276 report that the high cost of building materials is retarding construction activities; 57 indicate a shortage in standard supplies and 102 intimate just the reverse; 40 report loan difficulty, and 140 state that there are no loan troubles at the present time; 216 say that wages are high as against 26 who do not consider them so. Statements to a total of 95 were received regarding the excessive cost of construction, with estimates varying from 20 per cent. to over 100 per cent. making the average for the state in the neighborhood of 42 per cent. above normal.

Henry S. Harris, Land Title Building, Philadelphia, is now handling the well-known burned clay products line of the Camp Conduit Co., Cleveland, Ohio, representing the company thruout this eastern district. High grade fire brick, standard hollow tile of various sizes, and hollow tile fireproofing are among the products to be actively promoted in this section. Fire clay, also, will be sold, as well as hollow steel doors and other metal fireproof specialties. Mr. Harris is a live wire in every sense of the word, and was formerly eastern manager for the Pennsylvania Fireproofing Co. In speaking of conditions at the present time, he sets forth that building work of any account is rather at a low ebb in the Philadelphia district, but is decidedly optimistic in believing that a resumption of construction work will come about at an early date.

Things are moving rather slowly in a building way at Philadelphia and vicinity, and the thought of "build now" has not penetrated to the point of bringing about any noticeable change in the situation. The current work for the most part covers repairs and improvements to existing structures, with a few additions to industrial plants for increased capacities. The "Own Your Own Home" campaign is now getting a good start in this section and it is expected that this will do material good in the development of an active building movement. To relieve the present housing situation, plans are under way for the construction of a number of dwellings in different parts of the city. A total of 42 two-story, brick residences, each to cost about \$5,000 will be erected by Herman Beckershoff, 6212 Spruce Street, on Osage Avenue, between Sixty-second and Sixty-third Streets; 20 brick dwellings, each two-story, costing about \$4,000, will be constructed by C. H. Eckman, 2126 North Sixteenth Street, at Spencer and Ogontz Avenues; and 41 residences, each two-story, to cost about \$4,000, will be built by the Wyoming Construction Co., 1414 South Penn Square, on Florence Avenue, near Fifty-second Street.

Tennessee

The Scottsville (Tenn) Brick Co. has filed an application for charter to operate a plant capitalized at \$15,000. The plant is already built and operation will commence at once. Those signing the application were: J. Bailey Wray, A. F. Richards, A. J. Dunn, C. A. Webber and W. K. Johnson.

Are you looking

for some way to relieve you of your sales worries? If so, advertise your ware—Building Brick, Building and Drain Tile, Sewer Pipe, Fire Brick, Terra Cotta, etc.—in

BUILDING SUPPLY NEWS

Advertising rates and sample copies cheerfully sent on request. Write today.

*The only Dealer
paper in the
Building Field.*

*Endorsed by
National and
State Associa-
tions of Dealers*

Building Supply News
 610 Federal Street Chicago

BUILDING SUPPLY NEWS issues a current price list of your commodities in 73 cities thruout the U. S.

Texas

A charter has been filed by the Elgin (Tex.) Standard Brick Manufacturing Co. to organize with a capital stock of \$75,000. The incorporators include W. C. Rivers, G. W. Prewitt and W. H. Rivers, Jr.

Utah

F. A. Briggs and Jas. Huffman have been awarded the contract for 300,000 brick by the Beaver County (Utah) Board of Education, and work has been started on the ground for the new plant, which will be located across the river in Jackson County. Immediately after the letting of the contract arrangements were made for the shipment of machinery which is expected to arrive very soon. It is expected that 500,000 brick will be made this summer.

Wyoming

Thru an arrangement made between the city of Lovell, Wyo., Warren Overpack, and George Warren, of Astoria, Wash., the latter have agreed to move their plant from Warrenton, Wash., to Lovell. Work of moving the plant is to start at once. The city of Lovell has agreed to supply \$65,000 toward the expense of moving the plant, and thirteen acres of land have been donated for a site. The new company will also take over the plant of the Galusha brick plant in Lovell. It is claimed that the Washington firm was attracted to Lovell by the large supply of natural gas close to the city, and by the presence of suitable material for the manufacture of brick and hollow tile. Representatives of the company have been in Lovell for several weeks conducting experiments and making tests.

Canada

In 1918 there were manufactured in the Province of Nova Scotia 13,379,600 brick, as compared with 13,598,075 in 1917. There were 1,001,792 ft. of drain pipe and tile made in 1918, as compared with 959,933 in 1917.

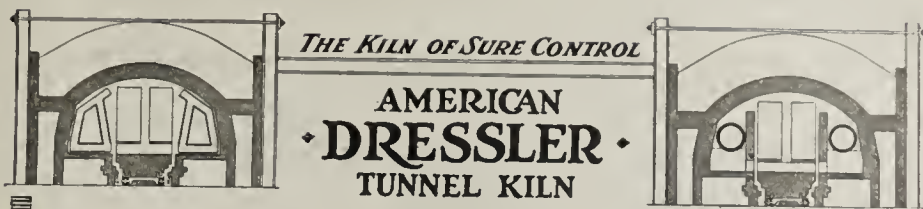
Wilson McBean, son of John McBean of the Milton (Ont.) Pressed Brick Co., has returned home from France. He was in the 11th Battalion, the railway construction battalion.

A petition for winding up order in connection with the Mack Brick Co., Ltd., Montreal, has been withdrawn. One of the Montreal directors has been at the Cooksville plant which, it is understood, will be reopened at a very early date.

James Crowther was killed at the Sun Brick Co.'s plant at Toronto, recently. He was engaged in the excavation of clay and was caught under several tons of clay which slipped from the bank. A sad feature was that the man's son returned from France the following day.

Cadwell Brick Co., Windsor, Ont., has been incorporated with a capital of \$100,000, to manufacture and deal in tile and brick. The provisional directors are C. W. Cadwell, Windsor; R. K. and W. B. Russell, Toronto and W. C. Chambers, Hamilton.

The Sun Brick Co., Toronto, has been reorganized. The Sun Brick & Tile Co., under the management of Col. Wilson, a returned soldier, will operate the plant, retaining 35 acres of shale. The Sun Holding Co. will hold the remaining 100 acres and will dispose of it if an opportunity opens.



**Speed
Accuracy
Economy
Efficiency**

AMERICAN DRESSLER TUNNEL KILNS, Inc.
171 Madison Ave., New York, N. Y.



Bituminous COAL
Particularly Adapted
To Burning Clay Ware

INDIANA BLOCK

Three Operations in Clay County, Indiana, on Monon R. R. Capacity, 3,000 Tons per day.

INDIANA Number 4

Three Operations in Green County, Indiana, on Monon R. R. Capacity, 3,000 Tons per day.

Both burn with long flame, are very low in sulphur, and leave a flaky ash.

Tell us your requirements

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Traction Building, Indianapolis, Ind.
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They're genuine if they have the Jenkins "Diamond Mark"—



You may not get a genuine Jenkins Valve unless you look for and demand the Jenkins "Diamond Mark."

The Jenkins Diamond, the distinguishing mark of unvarying service, is on the body of all Jenkins Valves—Brass, Iron, and Steel. These include types and sizes to meet all requirements:

Globe, Angle, Cross, Check, Combination Stop and Check, Blow-off, Whistle and Gate Valve in stationary or traveling spindle patterns.

The valve user of 50 years ago demanded "Jenkins" for dependability as users do today.

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Jenkins Valves

Speed & No. 1 Ware

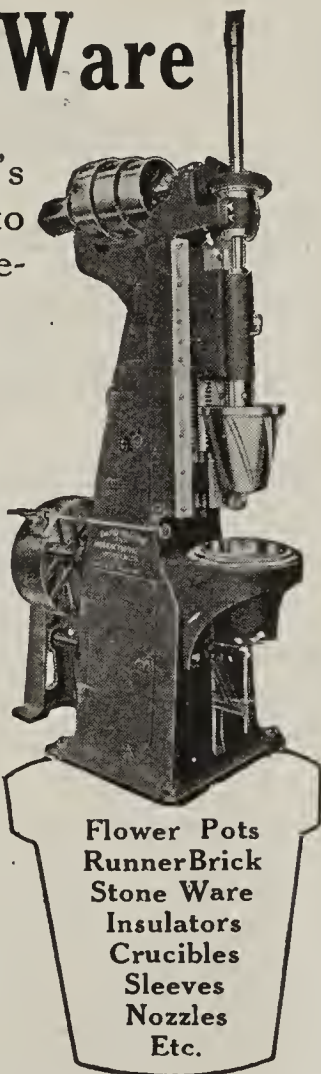
The popularity of Baird's Pottery Machines is due to their speed, simplicity of design, plus No. 1 ware.

The mould or head-piece of these machines always remains free from adhering clay. With the help of an ordinary workman, one of these machines will speed up production on easy selling ware, and increase your profits.

Send us a sample of your clay at once, and learn the possibilities of these machines. You will be surprised with the results. Write to-day to

Baird Machine & Mfg. Co.

265-69 Jefferson Ave., E.,
Detroit, Mich.



QUESTIONS

A Three Cent Stamp May Bring You Advice That Will Stop a Waste, Improve Your Ware or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Lime in a Calcareous Clay

900. New York—Will you kindly advise me if a clay which contains 13.43 per cent. of lime and 5.35 per cent. of iron oxide should burn red or yellow? The clay in fact burns red, and I therefore surmise that the chemist who made the analysis is in error when he reports the lime in clay above stated. How much lime should a clay contain to be classified as a calcareous clay?

We would expect a clay containing 5.35 per cent. iron oxide and 13.43 per cent. lime, to burn to a buff or yellow color. However, it is hard to ascertain from an analysis what color a brick will burn because the physical state in which these ingredients exist in the clay mass influences to a great extent the color to which a brick will burn.

There is considerable difference of opinion as to what limit of lime a clay can have in order to be of commercial use. In general, a clay containing carbonate of lime in quantities from one to two per cent. up to eighty or ninety, is called calcareous. Some people claim that a good building brick can be made from a clay containing as much as twenty to twenty-five per cent. of lime carbonate, provided it is in a finely divided condition, and if vitrified ware is not attempted. If, however, a quantity of lime is contained in the clay in the form of pebbles, then much damage may result from bursting of the brick, when the lumps of burned lime slake by absorbing moisture from the air. Clays containing a high percentage of lime carbonate are used in making common brick in Michigan, Wisconsin and Illinois.

The effect of lime in clay is as follows: It is probably most effective in the form of carbonate, and if finely divided is an active flux. When clays containing it are burned they not only lose their chemically combined water, but also their carbon dioxide, but while the water of hydration passes off between 840 deg. Fahr. and 1,112 deg. Fahr. the carbon dioxide does not seem to go off until between 1,112 and 1,562 deg. Fahr. In fact, it probably passes off at a higher temperature than this.

The result of driving off this gas, in addition to the chemically combined water, is to leave calcareous clays more porous than other clays up to the beginning of fusion. If the burning is carried only far enough to drive off the CO₂ gas, the result will be that the quicklime thus formed will absorb the moisture from the air and slake. No injury may result from this if the lime is in a finely divided condition and uniformly distributed thruout the mass, but if, on the contrary, it is present in the form of lumps, slaking and accompanying swelling of these lumps may cause the brick to split.

If, however, the temperature is raised higher than is required simply to drive off the carbon dioxide, and if some of the mineral particles soften, chemical reaction begins between the lime, iron and some of the silica and alumina of

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

the clay, the result being the formation within the clay of a new silicate of very complex composition. The effects of this combination are several:

In the first place, the lime tends to destroy the red coloring of the iron and imparts instead, a buff color to the burned clay. This bleaching action, if we may call it such, is most marked when the percentage of lime is three times that of iron. It is to be remembered, however, that all buff burning clays are not calcareous and that a clay containing a low percentage of iron oxide may also give a buff body.

Another effect of lime, if present in sufficient quantity, is to cause the clay to soften rapidly, thereby sometimes drawing the points of incipient fusion and viscosity within seventy-five degrees of each other. This rapid softening of calcareous clays is one of the main objections to their use, and on this account also, it is not usually safe to attempt the manufacture of vitrified products from them, but the presence of several per cent. of magnesia will counteract this. It has also been found possible to increase the interval between the points of incipient fusion and viscosity by the addition of quartz and feldspar.



Supposed Disadvantages of Dry-Press Brick

902. *Pennsylvania*—We would like to inquire as to the difference between a fusion test and a softening test, and whether there is any difference in cones between the fusion and softening points of a clay. Would the fusion and softening points of clay be expressed by the same cone?

We have a clay with a long vitrification range which makes very distinctive looking face brick on the dry-press process. These show no more absorption on the average than the best grade of stiff mud face brick; on the whole they probably will show less. The objections which occur to us to manufacturing brick dry-press are: the prejudice which seems to exist to greater or less extent to dry-press face brick, the fact that they are supposed to dirty up more quickly and the fact that they are harder to lay up in a wall, owing to the smoothness of all sides. We would like to know whether the ability of a brick to keep clean depends directly on its absorption, and we would also like to know your opinion as to the weight of the other objections in our particular case.

There is a difference between fusion tests and a softening point, and this difference may be more in the case of a clay than a cone. The softening temperature of a substance is the range of temperature where the substance begins to lose its shape and commence to flow like a mobile liquid.

Theoretically, when a substance begins to soften it also begins to fuse, but fusion is generally not accomplished until either the softening temperature is held for a long period of time, or the temperature increased.

From these statements you can see that the fusion point

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A large Brick and Tile plant owner writes:

"We can truthfully say we have never had more prompt and satisfactory adjustment of claim than in this case."

Write us for rates and our plan to render better service and greater safety.

Manufacturers of Clay Products at
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29 S. LA SALLE ST., CHICAGO



Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO

"We have been using at our two factories for the past year, Barium Carbonate made by the Rollin Chemical Company. This material is used to prevent scum and has proved entirely satisfactory."

THE UNITED STATES ROOFING TILE CO.

5-15-18

IMPROVE YOUR WARE

It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

Write us now.

The Rollin Chemical Co.
Charleston, W. Va.

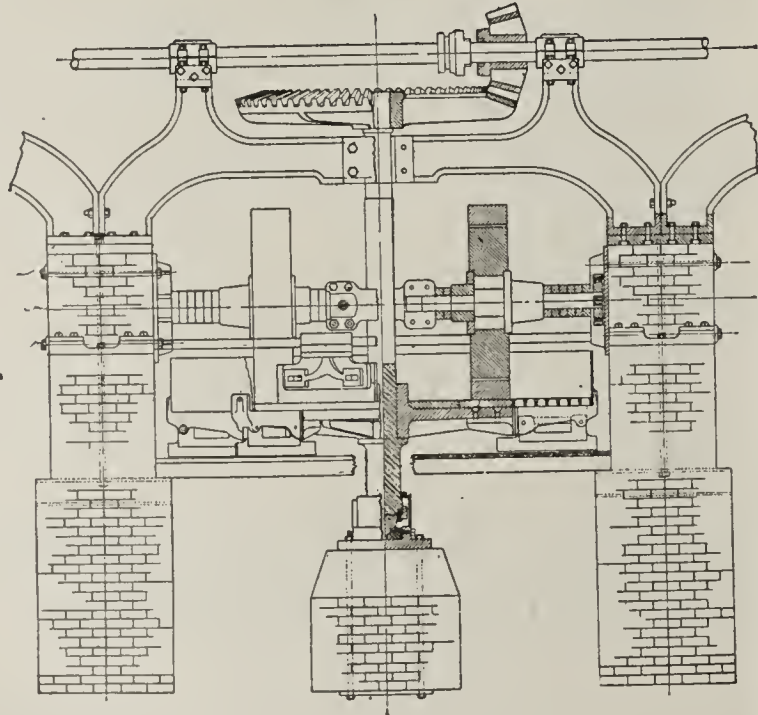
BRICK MUST HOLD UP ITS REPUTATION

The "MEANS" 9 Ft. Dry Pan

is being chosen for the reduction of clay and shale by successful claymen because careful comparison with other makes, and records of their performance, show the "Means" to be the best. Special features are the improved step and toe, and adjustable bearings.

In addition to dry pans we manufacture all equipment required in sewer pipe and tile plants, and our special goose-neck attachment for the sewer-pipe press affords a means of making brick directly from the press. Write us.

The Toronto Foundry & Machine Co., Inc.
Toronto, Ohio



and softening point of the clay may be the same. In other words, the effect of both time and temperature on the clay is a governing factor. The reason a cone softens is because of the fact that the particles that soften are in the state of fusion.

A clay with a long vitrification range is one which either takes a long time to bring into a state of fusion after it is once started in this direction, or requires a considerable higher temperature to accomplish this same result.

In regard to the manufacture of dry-press brick, you seem to be somewhat confused on the disadvantages that are supposed to exist. A dry-press brick is less apt to become dirty than a rough-textured brick. In regard to laying in a wall, we do not believe that bricklayers contend that it is harder to lay up than a rough-textured brick.

The ability of a brick to keep clean depends somewhat on its absorption, but more upon the texture of its face, and we believe that you will find no difficulty in marketing a smooth textured face brick, providing you get a good color, no absorption, no tendency to scum, and must sell at ordinary prices. There is this to be taken into account, however: In many districts the public demand a rough-textured brick, since it is more popular, and whether or not you can make a dry-press brick, will, of course, depend upon the demand in your territory.

* * *

Repairs on a Down-Draft Kiln

904. Illinois—Some years ago we saw an account in your paper where a Galesburg, Ill., paving brick firm in building a new kiln built the fire bags into the walls, thus making it more convenient to set the brick. We are just now repairing an old down-draft kiln with extremely heavy wall. Would you think it practical to have at least part of the bag into the wall, say nine inches? After getting above the height of bag wall, would you turn an arch or step it out with headers a couple inches each course till flush with the rest of the wall? Do you think it would in any way weaken the kiln? We would like your opinion on this promptly if you will do us the favor and enclose stamped envelope.

In answer to your letter allow us to first quote from Carl B. Harrop's article which appeared in the March 26, 1918, issue of *Brick and Clay Record*, and which contains the following paragraph:

"It has been generally believed in the past, that combustion should take place within a fire box of rather limited size (altho it may easily be made too small). The earliest down-draft kilns as a rule, had restricted throats or openings into the kiln, which involved considerable projection of the furnace beyond the kiln outer wall. In later kilns, this restricted throat was removed, which at the same time reduced the furnace projection on the outside. In modern kilns, the grate bars extend into the bag wall or bag wall foundation, the furnace being completely within the kiln knob. In some kilns for high temperature ware, recently visited, at least half of the length of the grate bars lies inside the kiln. The furnace does not protrude from the outside, notwithstanding the fact that the kiln does not have a hob and the wall is but 27 inches thick. This tendency to set the furnaces farther into the kiln has resulted in less furnace radiation and a simpler and more regular exterior construction around the kiln knob, altho possibly there has been the disadvantage of a small reduction in the setting space in the kiln as a result of enlarging the bags."

To build a furnace such as you suggest, would naturally

weaken the wall somewhat, altho we believe that with a little care in construction, this will give you no difficulty.

The above paragraph shows the advisability of building a furnace farther into the kiln, and of the greater saving in fuel. Whether or not it would be advisable for you to make the change that you desire, will depend a little upon your need for greater capacity in the kiln. If you desire very much to increase your capacity, we would say go ahead with your plans. However, if it is not necessary for you to increase the capacity of your kilns, we believe that it would be better not to make the change you propose.

* * *

Pertaining to Hollow Tile Manufacture

903. Ohio—I have noted several articles in "Brick and Clay Record" in which the manufacture of hollow building block was encouraged. I should like to ask several questions pertaining to the hollow ware business as follows:

Would a five kiln plant (32 ft. round down-draft) give continuous operation on 5x8x12 and 4x5x12 block and about how large a capacity would this be on 5x8x12's?

Would \$50,000 completely equip a plant for this capacity, assuming that we build a hundred foot raw clay storage building with belt conveyor, a factory building of ample size for this capacity, a tunnel dryer, a \$2,000 R. R. siding and other incidentals such as yard grading, etc.?

Would \$25,000 be sufficient working capital, basing sales on a 60-day basis?

Would selling thru agencies be better than maintaining a sales force?

Is hollow ware, as a rule, shipped long distances, or is it consumed within a short radius of the plant?

Does hollow ware made of a plastic fire clay sell better or command a better price than ware made of a red burning shale?

Can a plant confine its products to a small number of sizes and find a ready market without making the intricate shapes demanded in fireproofing?

Would \$75,000 be too large an investment for a plant producing as you would rate this one?

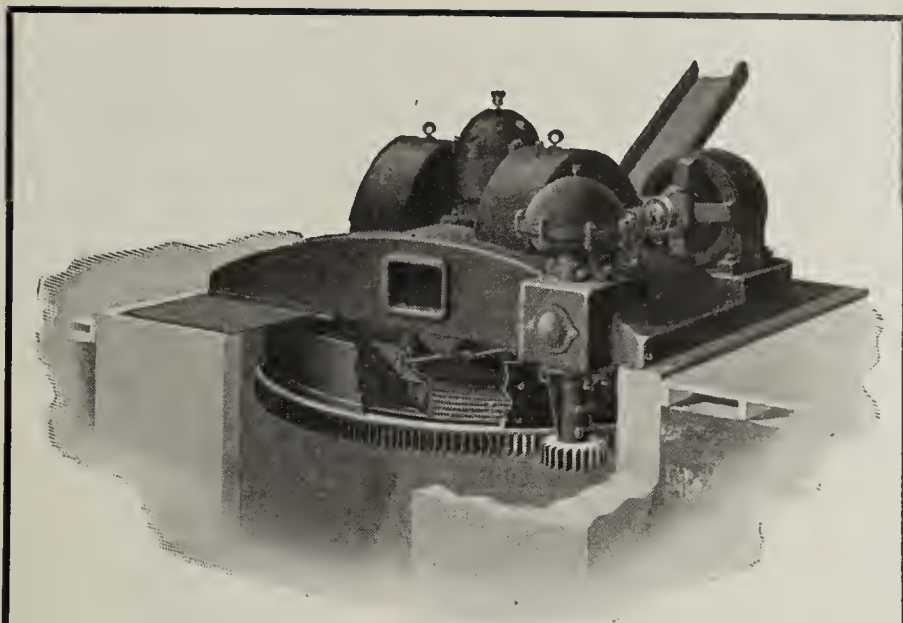
If your letter was addressed from Montana, or some other state, our answer would be altogether different from the one which we shall have to give you below.

At the present time and for several years past, the capacity of plants in Ohio has been greater than the demand for hollow tile. It is not an attractive opportunity when one considers that present organizations are well established which can fill all orders on the market.

In answer to your various questions, let us state briefly that in the first place, a five kiln plant of thirty-two foot diameter kilns would not give continuous operation on 5x8x12 and 4x5x12 block. Continuous operation on 5x8x12 would mean twelve thousand to fifteen thousand a day.

Fifty thousand dollars, under present conditions, would hardly complete and equip a plant of this capacity. The cost would probably run up to nearly twice this amount. Twenty-five thousand dollars would be sufficient working capital, basing sales upon the sixty day basis. Selling agencies would probably work better than maintaining a sales forces. As a general rule 5x8 hollow tile is distributed to points within short radius of a plant. The selling price of a red burning shale hollow tile and of a plastic fire clay tile are practically the same.

It would be quite difficult for a plant to confine its products to a small number of sizes and find a ready market



Model A 300—Patent applied for
Dry and Semi-Dry Grinding Machine

Machines for

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STEAM PRESSES FOR MAKING

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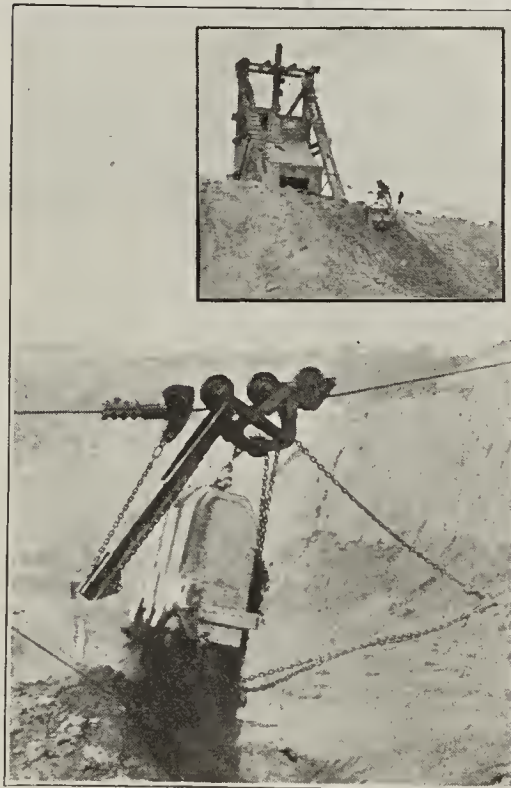
SAUERMAN DRAG LINE CABLEWAY EXCAVATOR

Is a one-man machine which connects the clay pit with the plant and digs, conveys and dumps the clay in one continuous operation. It does away with the shoveling gang and the cars, locomotive, track, etc., that are required when other kinds of excavating machines are used.

Here's Example of Economy of Sauerman Outfit in Clay Plant:

The problem confronting one large Ohio brick manufacturer was to find the most economical means of getting the clay from a large hill and delivering to the plant situated in the valley. The method first tried out involved the use of a steam shovel with cars and horses to haul the clay to the plant and required the employment of six to eight men.

The Sauerman outfit which has taken the place of the shovel and cars, digs the clay from the hill and conveys it to a hopper from which a car runs up and down a short incline to the plant. Two men constitute the entire operating force. The small picture shows the bucket digging a load near the top of the hill. The bucket loads in a few seconds, then the drum carrying the load cable is released by the operator of the double-drum friction hoist on the hill-top and the loaded bucket returns down the track cable by gravity to the hopper 500 ft. away in the valley. The large view shows the quick, sure, automatic dumping action of the bucket.



This low-end dump type of installation has proved to be a perfect solution of this clay-digging problem. Our other type of outfit, dumping at high end of cableway, is equally successful where the clay has to be delivered to a point higher than the place of digging. What is your problem?

Catalog free on request.

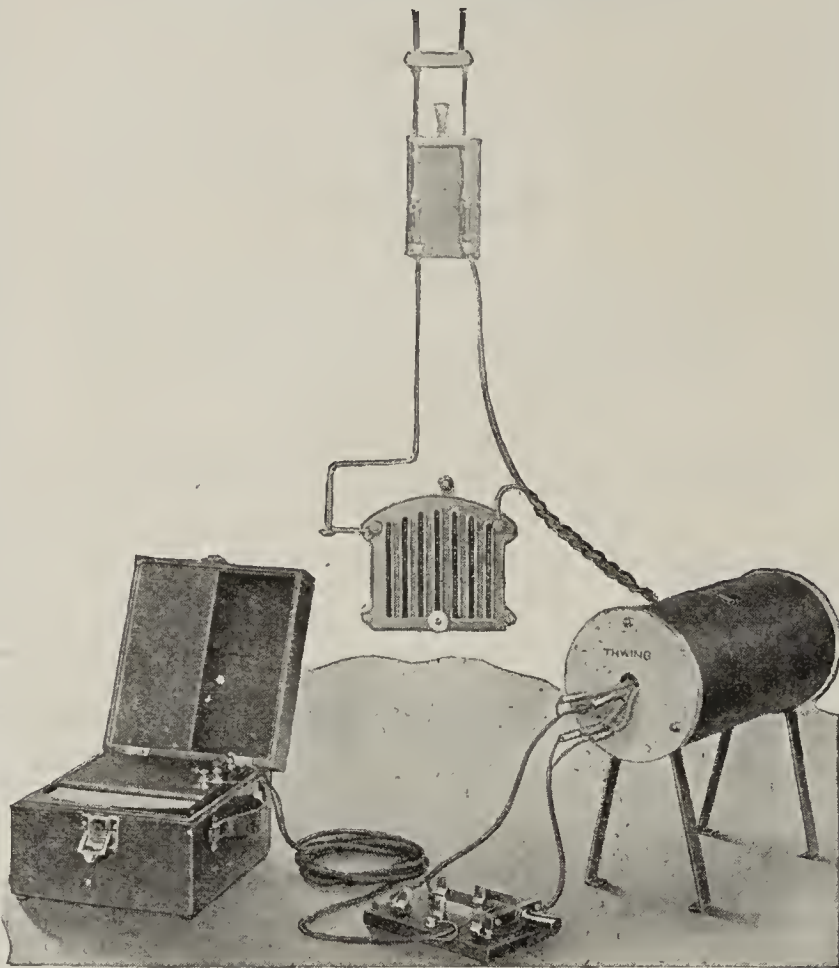
SAUERMAN BROS.

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Get This Thwing Pyrometer Calibrating Outfit

and you can always be sure of keeping every thermocouple accurate to the highest degree



Thermocouples of pyrometers should be calibrated at intervals to check their accuracy.

Users who have not the facilities for calibration may have this work done at nominal cost and any necessary repairs made in our laboratory.

However, calibration under actual service conditions is often necessary or desirable, and especially where there are many pyrometers in the plant, some provision can profitably be made for doing this work at home.

The best method of checking consists in maintaining an electric furnace and a standard testing pyrometer, which is itself subjected about once every six months to test at our laboratory or by the United States Bureau of Standards.

For testing service we furnish the complete outfit shown, consisting of electric furnace for maximum temperature of 2000° F. and current consumption 330 watts, a rheostat for either 110 or 220-volt current for controlling the temperature, a Thwing laboratory type indicator, and a Thwing thermocouple of type best suited to the requirements.

The hot points of the thermocouple of the laboratory instrument and the one to be tested may be wrapped together loosely with asbestos cord and inserted into the furnace. By maintaining uniform temperature and shifting the indicator leads from one couple to the other, any error is quickly detected.

In order that our patrons may fully utilize the possibilities from their installations, we gladly co-operate in improving operation and do so without charge even to the extent of rendering special reports when necessary.

Thwing Instrument Co.
3337 LANCASTER AVE.
PHILADELPHIA, PA.

without making the intricate shapes demanded in fireproofing. An investment of \$75,000 would no doubt be too large an investment for a plant producing under the conditions you have in mind.

If your location was west of the Mississippi or in the southern states, or if conditions were different than what they are just at the present time, your proposition would be an altogether different one, and we are inclined to believe that we would advise favorably. However, the above answers are based on present conditions and in consideration of the location you are now in.

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Safeguarding Kiln Dome Against Collapse

905. *Canada*—We have a round down-draft kiln, thirty feet inside diameter. The inside lining and dome are built of fire brick, but the dome was built rather flat. The rest of this kiln was built of slop brick which were poorly burned, and they have weathered away very badly. I have been asked to take charge of this plant, and would like to build a nine-inch wall to replace the old one, but as I anticipate trouble when I have to take off the band where the dome exerts the greatest pressure, I would like to know if anyone has had any experience with a similar case, and what steps were taken to safeguard the kiln dome against collapse.

We have no record of anyone making such changes on their kiln as you propose. However, in replacing a kiln wall with new brick we recommend that you put the brick masonry up in sections, and in this way reduce the possibility of weakening the wall too much. Also, make your mortar joints as thin as possible.

We wonder if it is at all necessary to remove the kiln band at the top of the kiln wall. Why not allow this to remain in place and build your wall up to that point? The brick work covered by the band is undoubtedly in good condition and probably needs no repairs. This would prevent the falling of your crown and obviate any worry in this direction.

If you do find it necessary to remove the band, which it should be possible to do under ordinary circumstances, do not remove it until the new brick work has been built up to that point, and then take it off and finish the kiln wall. In this way you will reduce the time that the horizontal thrust of the kiln crown is unsupported, to a minimum and there is less danger of the falling of the kiln crown.

We would recommend you read the superintendent item, on page 779 of the October 23, 1917, issue of *Brick and Clay Record*, which we are quite sure you will be interested in.

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Wants Kiln for Burning Shale Brick

901. *Alabama*—Have you any books to sell explaining how to build a square up-draft kiln for burning shale brick or a down-draft square kiln for burning shale brick? We are figuring on building a 100,000 square up-draft kiln to burn dry-pressed shale brick. Do you think it would work all right, and we could get good burns therefrom? Our idea is to build such a kiln that would cost us the very least money.

We believe we have a book in our book department which will be of value to you in building a kiln, or for that matter, in many other brick plant operations. This book is entitled: "Modern Brickmaking," by A. B. Searle, the price of which is \$7.25. Another good book on brickmaking can be obtained by writing to the Iowa Geological Survey, and asking for Volume 14 of their annual report for 1903.

We believe that you can burn dry-press brick in an up-draft kiln, for there are a number of plants doing this. Perhaps you would be interested in the description of the Las Vegas (New Mexico) Brick Co., where dry-press brick of red and buff color are manufactured. This plant has a yearly capacity of one million one hundred and fifty thousand and it has three up-draft kilns. The clay used is shale and in making the above number of brick, it required three hundred tons of lignite coal, one hundred tons of coal and five cords of wood. However, this company contemplates burning in down-draft kilns, believing that a better brick can be obtained.

The chief precautions in building a scove kiln consist of, first, avoiding too great a width of kiln, so that the brick in the center may be fully burned; second, making the walls of sufficient thickness so that they will not fall as a result of the repeated expansion and contraction, and third, to see that the walls are kept as air tight as possible, as even small leaks and cracks spoil the draft in the kiln.

There is no doubt but that the up-draft kiln is the cheapest kiln to build, but on the other hand the burns are not as good as the down-draft kiln, and it does use more coal and fuel.

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Clay Products Data in Mineral Report

The material printed in this item is taken from the March, 1919 bulletin, containing excerpts from monthly reports on mineral investigations in the Bureau of Mines, Department of the Interior. The bulletin states that the general situation in the mineral industry has been one of continued dullness. In almost all lines prices have declined considerably, and apparently are reaching a point of stability. As a result the prospects are more hopeful for improved conditions and greater activity.

A reclassification of import and export commodities, upon which reports are regularly made by the Bureau of Foreign and Domestic Commerce, is being made under the direction of G. B. Roorbach, of the Division of Planning and Statistics of the Shipping Board. In this work all of the items now listed in the Traffic classification, together with many new items, are being arranged in logical groups under a decimal system, instead of being separated and scattered, as at present, under an alphabetical arrangement. The Bureau of Mines has rendered some assistance in the preparation of the parts of the classification dealing with ores, metals, and minerals.

In view of the prospective increase in building work it is important to note that certain nonmetallic mineral products enter largely into all structural work. The chief members of this group are clay products, cement, stone, sand, and gravel, almost the entire marketed production of which is employed in road or other construction work, or in the preparation of structural materials. The importance of this group is indicated by the fact that in 1916 the value of the mineral products included totaled over \$450,000,000. In the following table is given the value of each of the mineral products comprising this group:

Clay and clay products.....	\$208,000,000
Cement	101,000,000
Stone	86,200,000
Sand and gravel.....	30,000,000
Abrasives	11,000,000
Gypsum	8,300,000
Asbestos	3,900,000
Magnesite	2,200,000
Talc and soapstone.....	2,000,000
Mica	1,660,000
Fluorspar	970,000
Fuller's Earth	880,000
Chalk	120,000



The Service Belt—

A brain and brawn combination that makes things hum — that's me, "On-the-Job" GANDY, the original

stitched cotton duck belt.

I'm made to give, inch for inch, the kind of service that only first-class materials, constructive skill and the GANDY secret process of seasoning can put into a belt—

And the engineering department back of me, guarantees perfect adjustability to every requirement of belt-users—and that I give to each "top notch" service.

Are you getting that from your present equipment?

If not, come to us with your power and conveyor problems. We can end them with GANDY belting plus GANDY engineering service—and we're ready to do it now!

"On-the-Job" GANDY

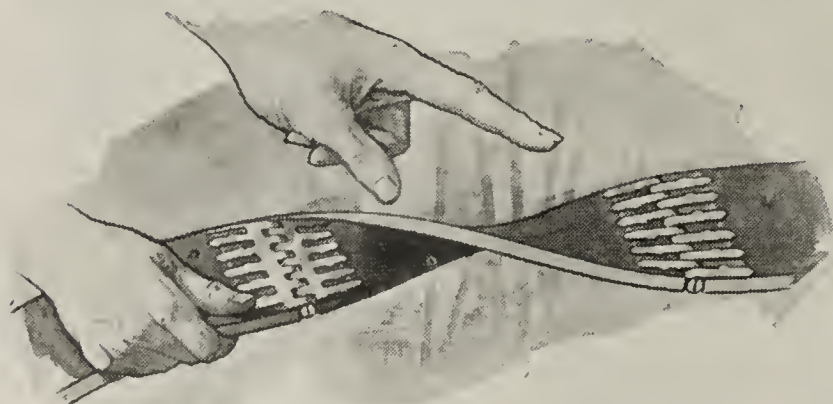
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Steel Belt Lacing

A Perfect Joint Smooth on Both Sides

The best belt in the world will render inefficient service on quarter turns, half turns and over idlers and will be short-lived if the joints are not strong, flexible and absolutely smooth on both sides.

Alligator Steel Belt Lacing, because it is practically as smooth on both sides as the belt itself, can run perfectly on any belting service.

Alligator Lacing is adapted for use on all sizes and kinds of flat machinery belting. It makes a joint that will last as long as the belt itself, and it can be applied in a few minutes by any workman with no tools but a hammer.

No punch holes to tear out, no cutting of the belt's long fibers. A double-toothed grip of steel, the teeth clinching on both sides—is equal to any service strain and insures long life to the belt.

Write today for complete information and descriptive literature.



Flexible Steel Lacing Co.,

Manufacturers of

Flexo-Lok and Split Handle Portable Lamp Guards

Dept. A.L. 32, 522 S. Clinton St., Chicago, Ill.

It is interesting to note that clay and clay products are surpassed in value among all mineral products only by coal and iron. An interesting chart accompanies the bulletin showing the consuming industries arranged in logical groups, a list of the mineral products employed in each group, the estimated value of these products, and the proportion of the total value employed in each group. Of the ten divisions made it is interesting to know that nine of them include products made of clay.

The bulletin goes on to say that the manufacture of low grade clay products, such as common brick and tile, has in many cases in the past been carried on inefficiently and without the aid of technical or engineering advice. Modern tendencies are now slowly being felt and recently some very efficient plants have been installed. Noteworthy among these is the plant of the Los Angeles Pressed Brick Co., at Alberhill, Cal., erected during 1918, to manufacture fire brick, hollow building tile, and face brick for the Government. This company has also started a testing and research laboratory and is gathering a library on clay products.

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It is reported that the Roodhouse (Ill.) Pottery plant will be moved to Lincoln, Ill., where it will be known as the Lincoln Pottery Co. Its capital stock will be \$25,000. A number of Jerseyville men are interested in the concern, of which W. J. Chapman is president, J. H. Smith, secretary-treasurer, T. H. Cummins, S. H. Bowman, P. J. Fleming, J. J. Wiseman, and William Sinclair, stockholders.

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Speeding Causes Rapid Tire Deterioration

"Running truck tires at excessive speeds is a common fault among truck drivers," says the manager of the solid tire department of a large rubber company.

"The effect is the same as running them over rough roads, for speeding magnifies every irregularity. The tires absorb the shocks when the truck is operated at the recommended rate of speed, but increasing the speed greatly increases the force of the shocks. For instance, doubling the speed makes the force of these shocks four times as great.

"When you consider the shocks a truck tire must absorb when driven carefully, you can understand how the tire is taxed beyond its limit of power to absorb when driven at excessive speed.

"There is no form of truck tire abuse which is more expensive than speeding. If a man set out to ruin a set of truck tires, he could not find a quicker way than to run the truck heavily loaded, at excessive speed. This is a sure way to destroy tires and yet we see it almost daily.

"In the first place, there is the danger that the centrifugal force in a swift moving tire will tear the soft rubber from its base, and generate a heat that will cause the rubber to deteriorate. No matter how great the cushioning qualities of the rubber, the tire does not have time to accommodate itself to the irregularities of the road, and the destructive jolting caused will be very costly. An expensive truck can very soon be jarred out of commission by speeding.

"It is surprising how the mileage of a truck tire can be increased thru a little care, and inevitable that it must deteriorate rapidly if abused thru excessive speeding."

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M. R. Korshin will succeed A. R. Kroh in charge of the Chicago office of Selden Truck Sales Co., Rochester, N. Y.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Celite Appoints New Representative

The Celite Products Company takes pleasure in announcing the appointment of Frank Bethune, 808 Perdido St., New Orleans, as their representative for the Louisiana and Mississippi district.

Mr. Bethune is widely known and possesses engineering knowledge and sales experience that will enable him to successfully handle the wants of their customers in this district.

A warehouse stock will be carried to insure prompt deliveries of Sil-O-Cel Brick, Powder and Cement for Insulation, also Filter-Cel for filtration.

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Tycos Instruments

The General Industrial Catalog of TYCOS Instruments, containing 422 pages of useful and interesting temperature information, is now ready for distribution. This new publication describes the whole line of TYCOS instruments for the indicating, recording and control of temperature. Many special applications are illustrated, showing the manner in which these instruments can be adapted to diverse temperature needs.

Practically every instrument manufactured by the Taylor Instrument Companies for industrial purposes is illustrated and much explanatory matter descriptive of their construction and principles of operation is given. The list includes thermometers of every description, index and recording thermometers, hydrometers, pyrometers, temperature and pressure regulators, barometers, absolute pressure and draft gauges. A handsome publication, well bound, printed on paper of excellent quality and illustrated thruout with line drawings and half tone cuts. The company is located at Rochester, N. Y.

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The Labor Situation

"We hear a lot of talk about what we are going to do with the boys who are coming back from 'over there' as if all the positions and jobs in the country are occupied and there will be no openings," says H. P. Branstetter, local Kissel distributor. "Outside of the fact that these boys are entitled to first choice of all open positions, a few figures that I ran across recently would indicate that there will be and are more jobs in the United States than there are men to fill them.

"From reliable sources I find that our surplus of labor in normal times has been one million men prior to the war, but one hundred thousand of our foreign laborers have drifted back to the continent since 1914—that would leave us one hundred thousand short in normal times. Now, two hundred and fifty thousand of our best men have been killed or disabled and that figure with the new army of five hundred thousand will take up three hundred thousand more men than in 1914, as our standing army then was one hundred and ninety-eight thousand, including the National Guards.

"I understand that our emigration in 1914 was about one million working men, while prior to that year there were a million emigrants every year. The new alien law will keep more men away from now on. Therefore we would be shy say about one million, five hundred thousand men in normal times. While these figures are approximate, they give us at least an idea of the labor situation of the future.



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"Such a situation would necessitate not only every individual in the country becoming more efficient in his line of endeavor so he could make up the shortage in labor, but we would have to use all the time and labor saving appliances and methods that have proven a success.

"Such a scarcity of men would also necessitate longer traveling distances which would create a still bigger demand for the motor car. Also the distance between supply and demand would have to be shortened by putting on speedier transportation methods both for freight and merchandise.

"So you can see it is natural, in taking the above figures as a basis, to assume that there isn't going to be any scarcity of positions or jobs, but a scarcity of labor, of men competent to fill the real worth-while positions, and it will be found that the men who have the ability are men who not only own automobiles and motor trucks, but who know how to operate them properly, who can put them to the best uses, and who appreciate their utility and adaptability to every requirement in their business or profession."

Most of Us Are Just Common Folks

"'Genius is one per cent. inspiration and ninety-nine per cent. perspiration,' said Elbert Hubbard.

"What is genius, anyway?

"Someone will speak up immediately and say 'Edison.' But is he? Edison is a workman who trained his mind to one thing—electricity—and thought and toiled until he had developed that part of his brain above all others, to his own fame and to the honor of his country.

"Charles M. Schwab started as a day laborer at one dollar a day. Who now knows more about steel than he?

"And what about Ford and his 'flivver'?

"Any man may be a genius if he is willing to put forth extra effort and work a little harder than the next fellow.

"Every great invention, every splendid achievement is the result of constant, plodding effort.

"So it is with Sawyer Stitched Canvas Belting. We have no geniuses at our factory, but we have a lot of hard workers always on the alert to maintain the standard of quality set many years ago by this Company.

"Our Engineering Department is ever abreast of any situation that has to do with belting."

The foregoing is from the April issue of the "Booster," a copy of which you may secure from the U. S. Rubber Co., New York City.

We Americans are the most progressive people in the world, but we have a few industries that have stood still for years. The Soft-Mud Brick Industry is one that has made practically no progress in thirty or forty years. The average soft mud brick manufacturer is contented to plod along in grandfather's footsteps, remarking that grandfather made brick this way, used this machine, and what was good enough for him is good enough for me.

A portion of the soft-mud brick manufacturers have been pleading for years for someone to invent a machine that would do away with the hard work connected with the manufacture of soft-mud brick. The Arnold-Creager Company, New London, Ohio, heeded their cry, spent several years and many thousands of dollars in developing The S. S. S. Special Automatic.

Grandfather was a wonder in his day, a real progressive, but that was long ago. NOW is the time to do not as he did, but as he would do if he were here to-day.

The Arnold-Creager Company also manufactures a side dump car, pallet trucks, clay conveyors, disintegrators, etc.

Some clayworking plants are handicapped by lack of funds, and for that reason they cannot install the necessary improved machinery or expand to care for increased demands of their products.

It is to take care of just such cases that F. W. Morgan & Co. make a specialty of issuing bonds for clayworking plants which show the right qualifications. Their address is 1312 First National Bank Bldg., Chicago, Ill.

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The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

Results of Cut-Price Salesmanship

HELLO, Tom!"

"'lo, Bill!"

"What's new?"

"Nothing much. Just came from old man Graham's place. He's had a piece of bad luck," said the salesman.

"That so? What's the trouble?"

"Kiln fell in. He's only got one left now."

"Too bad," the clay man remarked, "too bad." Then he fell to thinking about old man Graham and his son. He recalled a conversation with the "boy" only a few weeks before—young Graham had remarked that they needed a new dryer building but did not know how they could possibly afford this improvement. "In fact," young Graham had said, "if father died tomorrow I do not know where we would get the money to bury him."

When the salesman had departed and left the clay products manufacturer alone, the manufacturer's thoughts drifted back to old man Graham and his son. He remembered hearing the old man say with pride that he had been in business forty years at the same spot. At the beginning of these forty eventful years he had a brand new plant with six good kilns. Not a very large plant, it is true, but a well-built, substantial and efficient factory. Now he had one kiln left out of the six, with buildings that threatened to fall on his head almost any minute. What a change time had wrought in forty short years!

But the thing that the clay man remembered most vividly about Graham was his utter lack of price stability. It was said that if Graham quoted \$16 per thousand on a certain size drain tile and a customer came along and offered him \$13.90, he would quickly take it. In other words he gave his "stuff" away.

Our purpose in these pages is not to tell stories but rather to write helpful editorials. However, we feel that no argument, appeal or command that we might put in words of our own would be half so impressive as this simple but true story taken from the every-day affairs of the clay products industry.

An able clay plant executive heard this story. It stuck in his "crop." Meanwhile a distressing market condition developed. A competitor was continually two dollars under in quotations. The board of directors met. This clay plant executive met with his board. They said "Let's meet this price cutter." He said "No," and then proceeded to tell his story. You could have heard a pin drop. The tale made a

profound impression. The directors voted to maintain prices. A week or so later the price-cutting competitor raised his price about two dollars, and everybody was happy.

* * *

It's No Longer On the Way, It's Here!

WHAT? Prosperity! How do we know? Just look at the April record of building permits which shows a gain of ninety-three per cent. over the same period last year. March of this year showed only a seventy-one per cent. gain over March of 1918; February showed a forty-eight per cent. gain and January showed a twelve per cent. loss. So you see, we are steadily mounting the ladder of increasing building activity.

It must be admitted that 1918 was an exceedingly dull building year. However, figures for April of this year are only ten million dollars behind those for April, 1916, which was admittedly the best year in building which this country has ever seen.

There is no question but that the immediate outlook **for increased business in the clay products industry** is very rosy. One could almost hear the great sigh of relief which business inaudibly uttered when the Victory Loan went "over the top." Business men all over the nation on Monday, May 12, began to make plans for expanding markets, and for improvements in organization and equipment of numerous kinds. Private stock and bond issues which have heretofore been held in abeyance, now have a free field in which to operate.

In talking with a well known face brick salesman the other day he ventured the opinion that brick would be at a premium by fall. He said that most of the plants with which he was doing business are now shipping from kiln to car. This is substantiated by statements in an advertisement of a well known face brick manufacturer in a dealer publication recently, in which the manufacturer asks his agents not to take orders for his brick for immediate delivery. He said that he must have at least four weeks in which to fill orders. This manufacturer announced that the price of his brick would not change downward during 1919. He warned the dealers not to try to force or encourage a sale by cutting their commission. "Get a good commission on every order," he said, "for we know we will be harder pressed with orders than ever before in our history. Therefore, you must not cut your commission expecting to make it up on quantity."

"Our sales for the first four months of 1919 have far surpassed the first four months of any year during the nine years we have been in business. This

April has been the largest by far in orders and shipments of any month of the one hundred and eight months of our existence. Correspondence from all parts of the country indicates a marvelous demand for all kinds of building material for the next five years. We are, therefore, enlarging our plant and expect to try, if possible, to fill all orders."

* * *

Caution Needed!

THE SAME well known clay products salesman-ager who said that brick would probably be at a premium by fall, also made the statement that the autumn of 1919 would probably see a large number of prospective clay products manufacturers on the outside of the industry hammering on its door desiring to gain entrance. We agree with this opinion. When the industry is prosperous there are always a number of would-be clayworkers who are seeking by "hook or crook" to get into the business—far too many "by crook."

We believe a word of caution is needed at this time, especially to those who are thinking about getting into the "game." In the first place, clay is one of the most abundant materials in the world. There is no lack of clay deposits. Folks who think that they have discovered a remarkable deposit are very apt to find that the geological survey has had knowledge of such a deposit long since. Wages are abnormally high and are not likely to go down in the immediate future. Coal is still selling for war prices with little prospect for a radical decline. Supplies, including machinery and equipment of every variety, are still costing more than they did four years ago. The comparative inefficiency of labor also is a very important factor. One contemplating the manufacture of clay products should be very careful to take these elements into consideration and should spare no pains to learn exactly what it costs to make a brick or tile.

A careful analysis should be made of the prospective market. If the market is already served by plants that are well able to supply all needs, it would be utter folly to erect a plant that would result in making competition keener and perhaps more disastrous than at the present time.

Hardly a week goes by but what we are approached either by mail or by personal visit by some one thinking about making some form of clay product. We are under the painful necessity time and time again of disabusing the mind and disillusioning the imagination of our correspondents or our visitors.

Caution is needed these days on the part of every one interested in the welfare of the clay products manufacturing industry. Uninformed and visionary parties should be discouraged from entering an industry to which they might do great damage.

We believe that we voice the opinion of progressive manufacturers of clay products when we say that most markets are well taken care of at the present time and what is needed is the development of demand rather than of production. It is much easier to increase production when demand has been developed than to increase the demand after production has been developed.

We would not be so narrow as to say that there is no room for another clay plant in America. There are undoubtedly markets in which an efficient, well managed, up-to-date plant is needed. We will go further and say that we believe it is the feeling of most progressive clay products manufacturers that they have nothing to fear from new plants that have an adequate cost accounting system, make good ware, and maintain the market price.

Let us be careful to give our friends who are thinking about going into the business good, sound advice, so that they may not thru ignorance engage in an industry where they might do more harm than good.

* * *

The Value of Suggestion

READING—books, papers, magazines, journals, etc.—is one of the simplest and most accessible roads to a liberal education. A college professor discovered this and immediately acquired fame by announcing that a five-foot shelf of certain specified books contained all of the knowledge necessary for a liberal education if a man would read those books thru faithfully and study them. President-Emeritus Chas. W. Eliot of Harvard University did not intend to convey the idea that a man should read no further than these books. He simply demonstrated the value of reading even a limited amount of well-chosen literature.

And so it is with a trade journal. Its contents are highly concentrated and condensed. Faithful and careful reading of its pages will result in a very liberal education in the industry which the trade journal represents.

The real value of the trade journal rests not so much in the number and quality of its articles as in the power of the contents of the magazine, to start the mind of the reader thinking. In other words, it is the power of suggestion that counts most. This has been well demonstrated in the clay products manufacturing industry. Many of the methods and devices now seen in common use on America's clay plants have been adopted from other industries. Take, for instance, the humidity dryer. Some bright clay man or man familiar with the clay industry saw this particular piece of equipment in operation in the textile industry, and seeing its possibilities in the clay industry, took steps to adapt it to his business. The same has been true with regard to the pyrometer.

It has been taken from the steel industry, as was also the gas producer and the idea of insulating kilns to avoid unnecessary heat losses. The CO₂ recorder was appropriated from the power plant and the electric storage battery truck from efficient factories in other lines. The steam shovel is an idea borrowed from the roadbuilding contractor, and so on.

The editors of *Brick and Clay Record* labor continually with the suggestion idea in mind. Other in-

dustries are unceasingly scrutinized to find machinery, methods and equipment that might be used in the clay products manufacturing industry.

Read the pages of *Brick and Clay Record* for the sake of the suggestions that may come to you. While you are doing this you will incidentally learn something you did not know. You will be improving your stock of knowledge and getting a liberal education in the business.



DETROITERS MILLIONS BEHIND *on* ORDERS

THROUGH A CAMPAIGN of advertising and publicity practically all hesitancy and uncertainty in the construction field in and around Detroit has been removed, while brick plants, practically idle a few months ago, now are millions of brick behind in their production.

All the brick plants are behind capacity production and the demand is increasing by leaps and bounds daily.

"There is no question in the minds of leaders in the construction industry of Detroit, but that the wholesome building activity here is due solely to the educational campaign conducted in conjunction with the Government's nation-wide 'Build Now' drive," said Chas. H. Bryan, vice-president of the Common Brick Manufacturers' Association of America.

"By constituting themselves a committee of the whole and deciding on a definite course of action, Detroit brick manufacturers attained a measure of success far beyond their expectations. We determined the absolute impossibility of price reductions and pledged our business reputations to the public that prices would not decline, thereby forestalling building inactivity, which was developing because of uncertainties in this respect.

"This assurance was all that the building public wanted and the oversold conditions of all Detroit brick plants is the answer to our course of action.

"After the armistice was signed, like in other cities, there developed a period of uncertainty due to the expectation construction material prices would recede from their war-time levels. The mere assurance of material dealers that prices would not decline, so long as production costs remained unchanged had little or no effect. The prospective builders merely sat back and looked wise, firm in the belief that the break would come which would permit them to reduce construction costs.

"Builders were quick to realize this attitude on the part of the building public and several meetings and conferences were held to determine what could be done to convince the public that nothing should interfere with building operations going ahead on a broad scale, not only as a sound business proposition, but to give employment to thousands of men engaged in the building industry whose activities had been seriously curtailed thruout the war period.

"A common sense line of reasoning was decided upon and the material manufacturers and dealers placed their cards on the table without reservation. In doing this, the Builders' and Traders' Exchange and other building trades and organizations produced a healthy volume of publicity stories for the newspapers while display advertising was inserted in every conceivable publication.

"It was shown that production costs had advanced dur-

ing the five-year period, which included the months of war, and that brick prices had merely kept pace with these increased costs. It was also demonstrated conclusively that nothing could be gained by waiting.

"There was an almost instantaneous response from the public and it was not long before Detroit's spring building campaign was on in full swing. It is significant to note that building permits issued in Detroit in April were far in excess of any other large cities of the central West.

"The brick manufacturers and dealers are unanimous in declaring that the successful launching of the building operations in this city, in the face of so many obstacles, was due primarily to the system of advertising and publicity originated. The newspapers gave wonderful co-operation and the reward is apparent in the fact that Detroit now has no unemployment, has comparatively few labor disturbances and is enjoying an unprecedented era of prosperity."

Efficient Salesmanship

is a subject that has been somewhat neglected in the clay products manufacturing industry. In next issue of "Brick and Clay Record" there will appear the first of a series of articles on this important subject. The first three of this series will carry the following titles: "What Makes a Salesman?"; "The Salesman's Personality"; and "It Pays to Study Salesmanship."

Watch for these articles!

COLLAPSE *of* PRICE STABILIZATION *emphasizes* NEED *of* FREIGHT RATE RELIEF

Work Progressing on Case of Clay Products Manufacturing Industry for Presentation Before Interstate Commerce Commission—Motor Truck Has Big Future as Medium for Short Haul Freight Traffic—Industry to be Benefited by Governmental Crusade for Better Farm Buildings, Besides Program of Road Building

By Waldon Fawcett

ON THE FACE OF THE THING there is little, if any, connection between the collapse of the price stabilization project of the United States Industrial Board and the fight for more equitable freight rates, lack of which many of the men in the brick and tile field regard as the most serious drag on the revival of business. In the estimation, however, of the representatives of the industry who are watching most closely the developments at Washington there is close contact between the two issues. They even hold that the industry may find compensation for the denial of any benefits expected from price standardization in a hastening of the solution of freight rates.

The theory of the watchmen for the clay interests who are on the job in Washington is that the flunk of the plan of Secretary of Commerce Redfield and Chairman Peek for stabilized prices simply means that the stronger force within the Government has declared for competitive bidding and the free functioning of the old-time law of supply and demand. They reason from this that the law of supply and demand cannot function in the face of extortionate and in-harmonious freight rates and that hence we have in the situation that is unfolding added pressure for the long-sought readjustment and downward revision of transportation charges.

PUTTING FINISHING TOUCHES TO PETITION

While the sentimental side of the situation may be thus somewhat more favorable, progress to a solution via the Interstate Commerce Commission and the United States Railroad Administration is of necessity proceeding at a rather deliberate pace. Without having wholly abandoned hope of a change of heart on the part of the officials of the Railroad Administration, the attorneys representing all branches of the brick industry and the hollow building tile industry are now hard at work putting the finishing touches to the comprehensive petition which will be presented on behalf of the industry to the Interstate Commerce Commission and on which the industry will rest its case in a final show-down.

The tentative draft of the petition was completed about the middle of May and is now to go the rounds of the committeemen of the industry for revision or amendment. However, the whole subject was so thoroly threshed out at the last meeting of the joint committee of the industries that it

is not expected that any extensive changes will be necessary. The expectation is that the petition in its final form will be ready for presentation to the Interstate Commerce Commission by June 1. Work will then be pushed on the task of rounding up information from the manufacturers in the industry as was forecast in *Brick and Clay Record* of May 6. The questionnaire which is to be sent to more than one thousand representative brick and tile men has been drafted with great care and it is felt that it should yield as convincing an exhibit as has ever been made by any industry of the havoc that can be wrought by uneven and unscientific tariffs.

CRYING NEED FOR READJUSTMENT OF RATES

Committeemen and attorneys for the clay products interests who have, in their current surveys, gone more deeply than ever into the subject of the freight rate situation confess themselves as appalled at the amount of maladjustment of which buyers of transportation in this field are the victims. Even if there was no warrant for a general reduction of freight rates on brick and other clay products—and it is contended that such a recession is necessary to put brick and tile in line with other commodities—the leaders of the industry insist that there is crying need for readjustment of rates in order to iron out inequalities and put an end to discrimination. The investigation that has been undertaken to uncover facts for the forthcoming hearings before the Interstate Commerce Commission has revealed that consistency is indeed a rare jewel when it comes to fixing transportation fees on brick and hollow building tile. Whether it is due to the localization of the industry, with the consequent preponderance of short haul business, the fact stands out that brick and tile men in different localities are by no means on that plane of even justice and equality that should obtain as between communities and between shippers.

It is on this plea of maladjustment as well as on the contention that the treatment accorded the brick and tile industry is out of line with that granted to other industries that the industry's fight before the Railroad Administration is to be kept up, without regard to the simultaneous forcing of the issue before the Interstate Commerce Commission. Recent reports of a widening gap between railroad operating costs and revenue and the renewed hints of Director General Hines with respect to possible general increases of

rates are not encouraging but the attorneys and committee-men of the brick and tile organizations plan another session with the powers that be at the Railroad Administration as soon as the executives who have been on inspection tours thruout the country return to Washington. Meanwhile, with congress back on the job the fat will be in the fire as regards legislative action for the return of the railroads to private management and operation. For the time being, however, the brick and tile trade spokesmen have no plans for a presentation of their views and their grievances to the commerce committees of the senate and house of representatives, which bodies will have the responsibility for the formulation of the future policy of railroad control.

THE FUTURE OF THE MOTOR TRUCK

With the transfer from the War Department to the Secretary of Agriculture of thousands of new and slightly used military motor trucks to be diverted to road building operations under the new plan of federal and state cooperation there has been sharpened the discussion in official circles at Washington of the future of the motor truck as a medium for short haul freight traffic. The recent reorganization on a permanent basis of the Highway Transport Committee of the Council of National Defense is likewise calculated to bring this issue to the fore. Obviously it is an issue that is bound to interest every clay products manufacturer just in proportion as his operations come under the classification of short haul business.

As our readers probably know, some of the rosy visions of the war period which contemplated motor transport as the solution for all the problems of freight haulage for hauls up to, say, 50 miles, have not been realized. It is confessed indeed that not more than 12 per cent. of the long-distance motor freighting and express routes have proved profitable. However, the experts at Washington are, many of them, convinced that there is a future for motor trucks in a broader sphere than that of city cartage, etc. To determine the exact limits of this zone—that is to draw a deadline between the short hauls that may be made most economically by rail and those where motor transport has the economic advantage—is the object of the highway transport officials in their present undertaking and for which they are mobilizing at Washington a staff of rate clerks and other specialists.

FARMING COMMUNITIES TO AFFORD BIG MARKET

By the by, it may be noted that not only is the Agricultural Department indirectly doing one good turn for the clay products industry by its new nation-wide program of road building with the aid of motor vehicles but it is to do another good turn for the industry at large via a crusade for better buildings on the farm which is about to be launched. Assistant Secretary of Agriculture Christie tells the writer that he has recently had a number of conferences with officials with the object of bringing about the expansion of the activities of the department's office of rural engineering. Better sanitation, and improved farm drainage will be encompassed within this particular effort for agricultural progress but the foremost of all objectives is that for more and better buildings on the farm—buildings built with more regard than farmers have heretofore bestowed upon the fire hazard. The fact that the up-to-date farmer is now the owner of a tractor and other expensive power machinery renders it imperative that he conserve his heavier investment by providing better shelter for his farm equipment. At the same time the circumstance that he has to reckon with internal combustion engines and must store on the premises gasoline, kerosene and lubricants renders it essential, in the estimation of the agricultural department officials that fire-proof or slow-burning construction be employed. The need

on the farms of more buildings of permanent character was also discussed at length at the conference at Washington recently of officials of the various state agricultural colleges who met to plan for the reorganization (on a basis of state and federal cooperation) of the United States office of farm management. All told, it looks as tho the farming community was to afford a better market for brick and other clay products.

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Chicago's Building Boom

The steadily increasing volume of home buying in the city of Chicago is largely responsible for the enormous volume of business in the Chicago recorder's office during April. The last week showed the number of deeds filed for record to be 1,783, an increase of 271 over the previous week which in itself had set a high water mark with a total of 1,512, this being an increase of 16 over the previous week which had also set a record with 1,496 transfers.

Never before has Chicago seen so much home buying in all its history, for the present deeds represent actual purchases and are not at all speculative. During the month permits for the construction of new buildings were issued to a total value of about seven and a half million dollars, nearly three times the total for April 1918. It is no longer a question of *when* the building business will resume. *It has resumed.*

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A. C. S. 1920 Annual Meeting Plans

Altho having just recently adjourned the greatest meeting it ever held, the American Ceramic Society is already making plans for next year's convention which promises to show that the society has by no means reached its limit yet in its activities and membership. The board of trustees has just announced its decision to hold the 1920 annual meeting at Philadelphia, Pa., with headquarters at the Hotel Walton.

The dates selected are February 23-26. It is expected that some important new developments will take place at this meeting but it would be rather premature to mention them now. Suffice it to say that it will be a meeting well worth your attendance and don't say that you did not know about it in time.

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Conference of Brick Manufacturers at Troy

George A. Parry, general manager of the Boston Brick Co., Boston, Mass. and president of the New England Brick-makers' Association; W. Gardner Long, general manager of the New England Brick Co., Boston; Wilson E. Spiers, president and general manager of the Spiers Brick Co., Boston; William N. Cary, general manager of the Cary Brick Co., Newton Hook, N. Y., and Gilbert P. Williams, general manager of the Troy Brick Co., Troy, N. Y., attended a meeting with directors of the local brick manufacturing plants, held in the directors' room of the Manufacturers National Bank, Troy, N. Y. recently. The conference discussed the outlook for brick manufacturing, the market and the employment of men engaged in the manufacture of common building brick.

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The J. A. Bauer Pottery Co., of Los Angeles, Calif., is building a two-story brick addition to the factory at Grit-fins Arroyo Seco tract.

CHOPPING OFF 91 HOURS *in* BURNING TIME

Forced Draft System of Burning Installed at a Common Brick Plant Results in Advantages That May Be Summed Up Into "Fourteen Points", One of Which is a Big Reduction in Burning Time

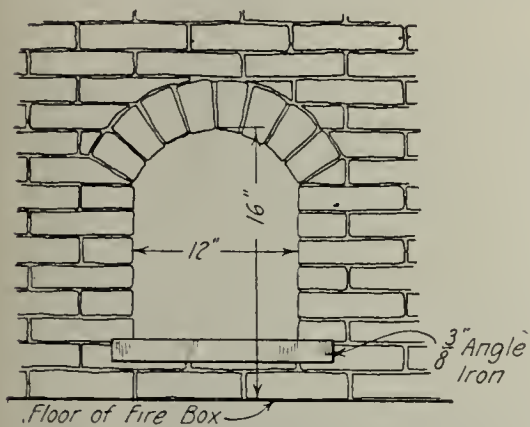
THINK OF IT! By a very small expenditure of time and money a common brick manufacturer was able to change his system of burning so that instead of it taking him on the average of 7.3 days to burn his brick in coal fired,

twenty-eight foot, round down draft kilns, it now only takes 3.5 days or less than half the time and with what is equally remarkable, an accompanying saving of 310 lbs. of coal per thousand brick.

About three years ago the Peoria (Ill.) Brick and Tile Co.

sists of one cross-collecting flue, 6 to 7 feet deep and 24 inches wide running at right angles to the main stack flue, which is three feet deep to the spring of the arch, and three feet wide. There are openings in the cross-collecting flue, 4 inches wide by 24 inches long and 8 inches apart. Smaller distributing flues are provided for in the setting of the bottom courses of green brick, as will be noted by referring to one of the accompanying illustrations.

The kiln is provided with eight small fire boxes which measure about eighteen inches wide, twenty inches high and forty-three inches deep to the bag wall. The charging hole is about twelve by twelve inches in height and width. It is covered by a fire clay slab or better still, by eight fire brick with a tongue and groove arranged so as to interlock into one strong component. About eighteen inches back from the front outside wall of the fire box, an air chamber is built in the floor of the fire box which measures 25 inches long, 13 inches wide, and 18 inches deep. This air chamber



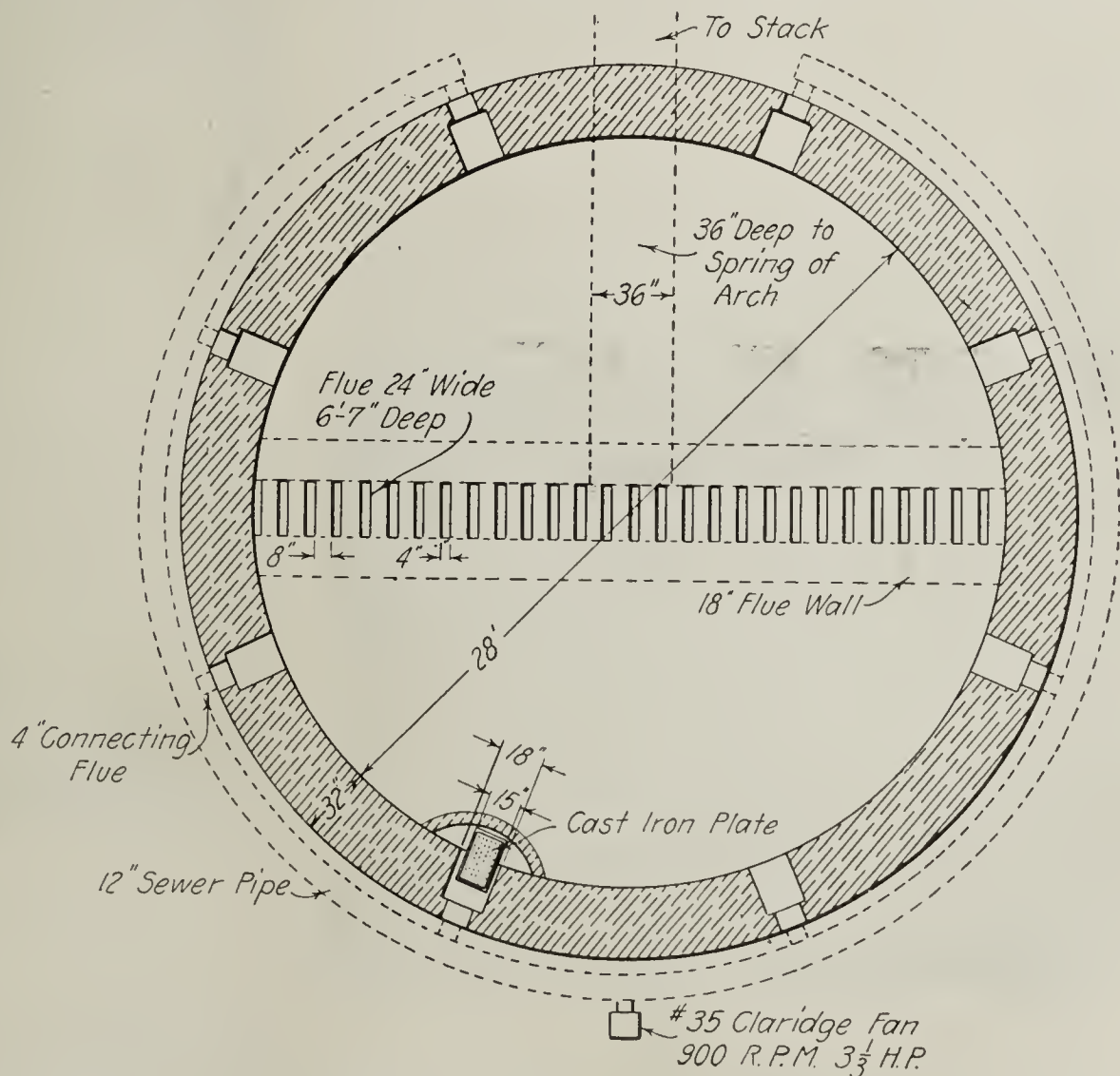
Sketch of Front View of Fire Box with Approximate Dimensions.

engaged B. S. Radcliffe who was then an instructor in ceramics at the University of Illinois to visit a number of plants where the forced draft system of burning was in use. Mr. Radcliffe gathered a number of notes on the various plants he visited and after studying the failures as well as the successful installations, designed a system which he thought best adapted for the burning of common brick. Accordingly the system was put in and a number of changes made until now it has reached a very good stage of perfection and is pronounced a remarkable success.

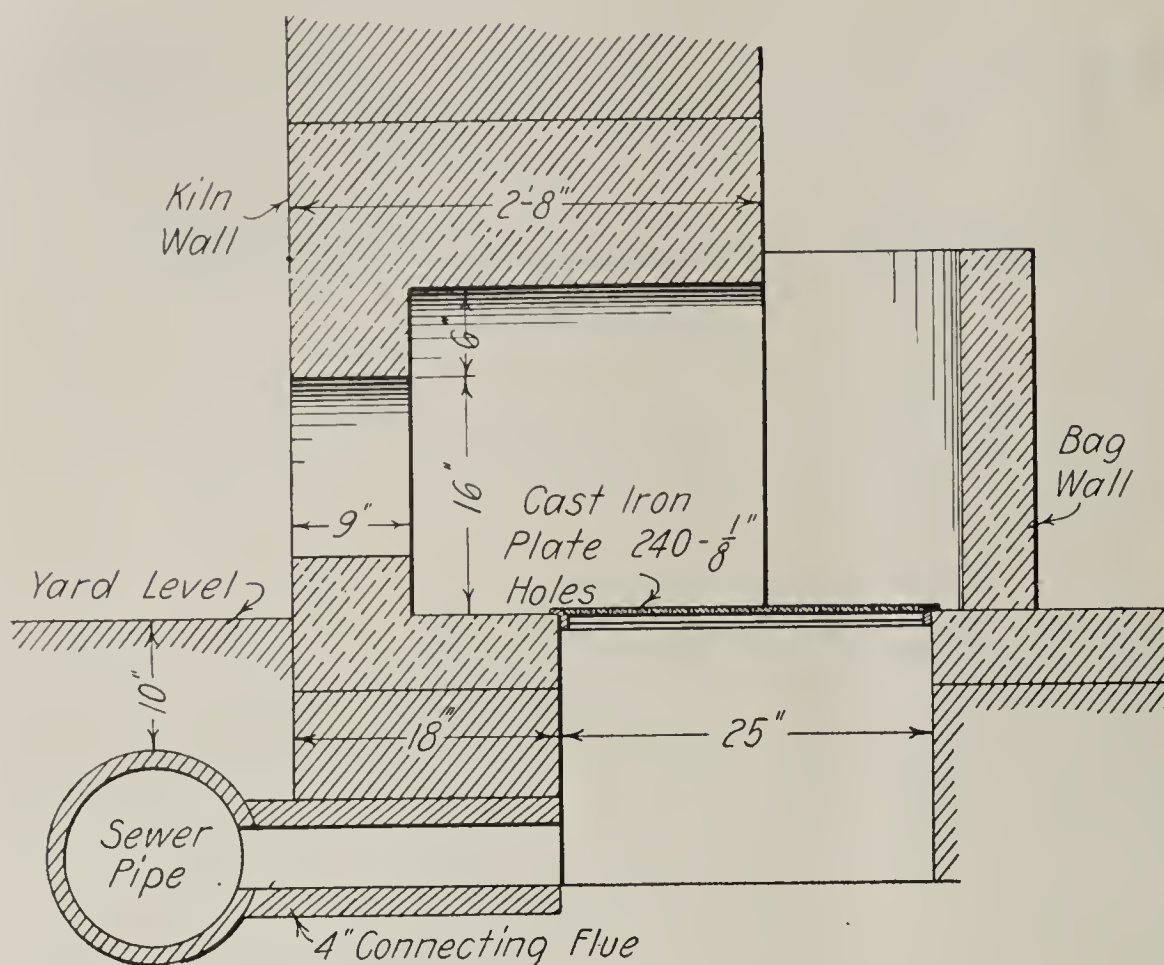
The use of forced draft in firing ceramic kilns and furnaces is not new nor has it come into very extensive use as yet. There are a number of failures recorded, yet on the other hand, it has been found extremely successful in several places where it has reduced the burning time and fuel consumption and has increased the percentage of well-burned ware. Perhaps the failures in a good number of instances were due to the fault of the application rather than the system itself.

DESIGN AND LAYOUT OF EQUIPMENT

To begin with the floor system of the kiln is a very simple one. It con-



Plan View of Kiln Taken From a Section Thru the Fire Boxes. A Number of Details as to the Kiln Floor and the Arrangement of the Air Duct Can Be Seen on the Above Drawing.



The Above Is an Interior View of a Fire Box in Process of Being Re-modeled.

The Drawing to the Left Gives the Details of the Fire Box Construction. The Dotted Hatch-Line Area Represents Fire Brick Construction.

is constructed with common brick using cement mortar except for the top brick which is fire brick and fire clay.

On top of this chamber is fitted a perforated cast iron grate having the dimensions of 15 inches wide, 25 inches long and $\frac{3}{8}$ inch in thickness. The air from the chamber passes thru the 240 one-eighth inch round holes in the plate which are spaced one inch apart. The construction of the air chamber, fire box walls and bag wall is such that there is a minimum of space between the perimeter of the plate and the walls of the fire box and the bag wall; the space perhaps not exceeding an inch and a half. This reduces clinkering. At the front part of the fire box, flush with the regular kiln wall, is laid two courses of fire brick forming a short wall which helps confine the fuel bed and prevents the blowing out of dust coal or ash. This short confining wall which is nine inches in width, is covered by a cast iron plate of three-eighths inch thickness, which pro-



This Photograph of a Kiln Interior Shows How Simple the Floor Construction Is.

protects the brick work from the iron bar used in cleaning the fires. There is a nine inch solid floor which extends from this wall to the front edge of the cast iron perforated plate.

DETAILS OF THE AIR SYSTEM

The forced draft is furnished to the air chambers by means of a Clarage Fan Co. No. 35 type S. P. blower fan driven at 900 r.p.m. by a $3\frac{1}{3}$ h.p. motor, delivering 3,000

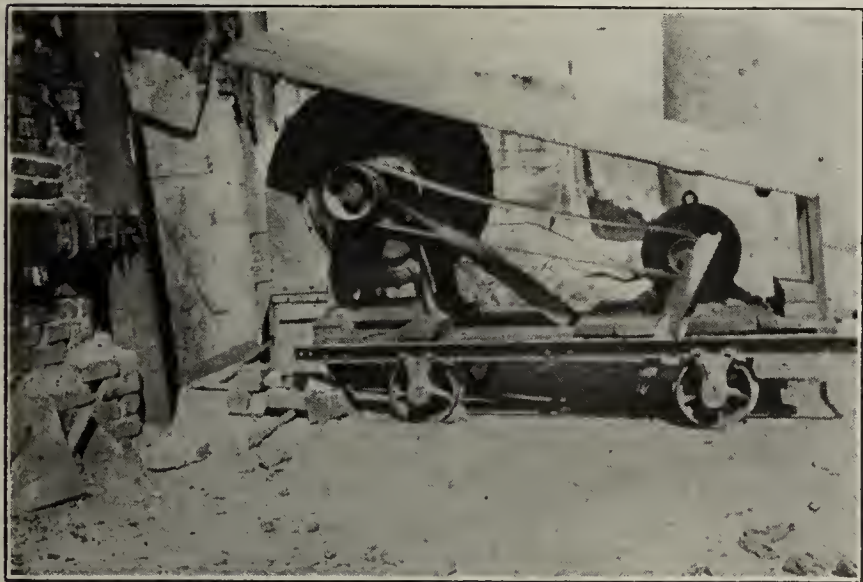


This Picture of the Setting Was Taken at One of the Wick-ets. Note the Flue Arrangement at the Bottom.

feet of air per minute against 6 ounces pressure. The mouth of the fan fits over a square opening at the bottom of which is ridge-like construction the apex of which splits up the air current reducing the back pressure and aiding in the distribution into the twelve inch sewer pipe ducts which encircle the kiln in the form of a horseshoe and supplies

each fire box with forced air. This duct is best constructed with sewer pipe which may be laid as close to the kiln wall as possible and should have good air-tight joints in every instance. A 4 by 4 inch duct connects this main duct with the air chamber under the grate in each fire box; the lower part of this small duct being even with the lower part of the air chamber and the upper part being 14 inches below the fire box bottom. By referring to the accompanying drawings this data will become much clearer.

The cost of installing and operating the system is very low and takes but a very short time. It need not interrupt the production one bit since the installation may be made on one kiln at a time and this can be done in four or five days' time by two men. The cost of the perforated, cast iron grates is \$5 for each grate. The number of fans required will, of course, depend upon the number of kilns on fire at one time. On this plant having eleven kilns, there are three portable fans each one costing \$300 with the electric motor attachment. The fire boxes, of course, need to be remodeled but there is very little difficulty met with here since the alterations are very simple. Taking all things into consideration, it is estimated that it costs about \$500 per kiln to make the entire installation. It is thought that this



Showing a Fan in Act of Forcing Air Thru the Sewer Pipe Ducts Which Feed the Various Fire Boxes of the Kiln.

cost might be cut down by using only one fan which would furnish the forced draft for the entire plant.

OPERATION COSTS ARE LOW

The cost of operating the kilns under this system is very low even tho fans must be used. Where power charges are $2\frac{1}{2}$ cents per kw. hour, it costs in the neighborhood of only 4 to 5 cents per hour to run the fan. Other operating costs such as coal consumption, labor and repair charges are considerably lower than where ordinary burning methods are in vogue.

By using forced draft there is, of course, a great difference in the manipulation of the burns but this, however, should not offer any difficulty since it involves no complicated changes. It has been found advisable to change firemen because of the prejudice which an old burner has for anything that will take him away from his usual working pursuits. He generally does not take to new systems very readily and if he will not be educated to the new firing procedure it is best to get new men who can be readily taught to burn kilns where forced draft is used.

No radical changes in setting the kilns are required. Of course, the first two courses of green brick are set so as to form small distributing flues which feed the main cross flue. The brick are then set five on two, faced, in regular manner thruout the kiln but a space of about eight inches is left between the wall of the kiln and the setting. This is

done to permit the circulation of air and gases around the kiln and has been found to aid immensely in getting better burning results. An accompanying illustration shows the



An Idea of What One of the Cast Iron Plates Which Fit Over the Air Chamber in the Furnace Looks Like.

flue arrangement in the brick setting as well as the manner in which the brick are placed relative to each other.

HOW BURNING IS ACCOMPLISHED

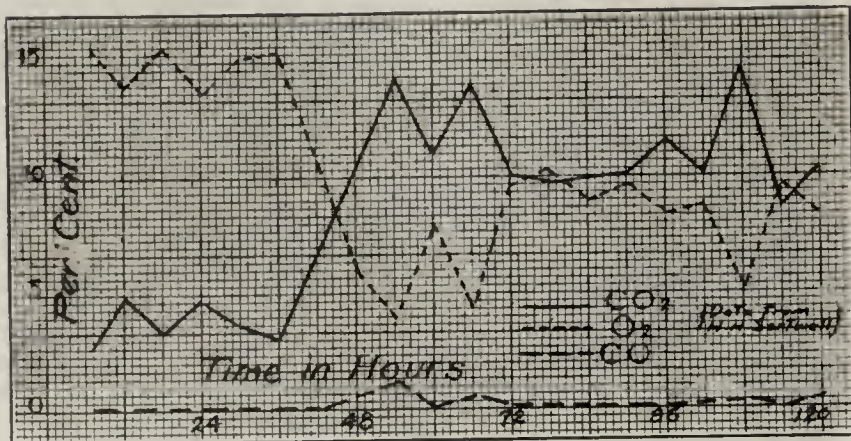
The usual method of burning at this plant is to take the temperature up as fast as possible bringing it up to 800 deg. Fahr. in about six hours' time. By bringing the temperature up this fast no trouble in either watersmoking or oxidation occurs. No doubt the clay is of such character that it will stand more than ordinary treatment yet there is no question that by the use of forced draft a big reduction in time of watersmoking and oxidation can be accomplished. The kiln begins to choke up somewhat if such fast burning is followed when a temperature of about 800 degrees is reached. Consequently, in the next interval of burning it



An Outer View of a Fire Box and a Door or Cover Is Shown Above.

is necessary to slow up a little in the amount of coal fired. In a short time when the kiln has cleared, the firing is speeded up again and the kiln temperature boosted right up

to 1,700 deg. Fahr. as fast as it will take the heat. The kiln is then permitted to soak at this temperature for about thirty hours or until the heat permeates thruout the whole clay mass. The heat is then raised to 1,800 deg. Fahr. for builders and 1,850 deg. for pavers.

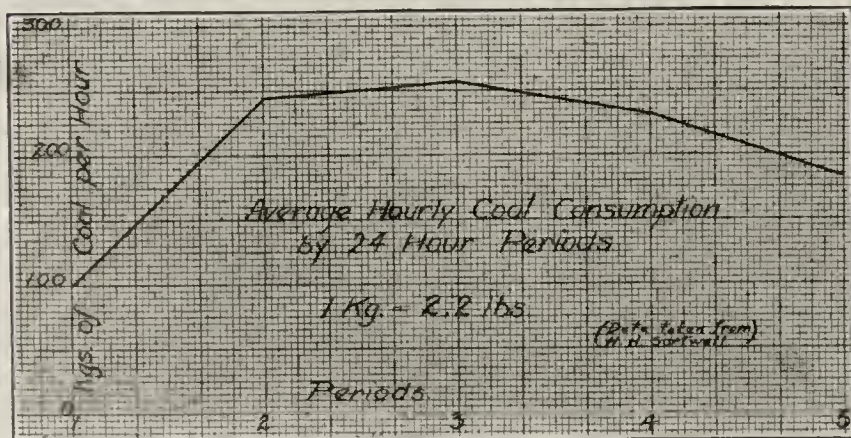


Results of Flue Gas Analyses Made During Time Heat Balance on One Kiln Was Conducted.

During the early stages of the burn the fire box doors are left open and each box is fired rather lightly. During the heating up and soaking period the firing intervals are very short, twenty minutes to a half hour and two to four shovels full of coal are thrown into each box. The fires are cleaned once every eight hours in the following manner: The fire in every other box is permitted to burn down until it is very low when everything in the box is shoveled out. The ash is in a very finely divided state and very few clinkers or very little coke is present. When the box is cleaned, a shovel full of burning fuel is taken from an uncleaned box and the fire built up from it. Then the remaining boxes are cleaned. Owing to the fact that the forced draft brings up the fire rapidly no drop in the temperature of the kiln is noted during the cleaning process. One man can take care of two kilns easily tho he may be kept somewhat busier than usual. No pinching of fire boxes is necessary.

BIG SAVING IN AMOUNT OF COAL USED

The economy and efficiency which results from the installation of this system manifests itself in several ways. First, the saving in the amount of fuel consumed and use of cheaper grades of coal is remarkable and deserves much attention. It has already been mentioned that by the old method of burning it took on the average of 1,307 pounds of coal to burn one thousand common brick, and that under the present system an average of 997 pounds of coal are



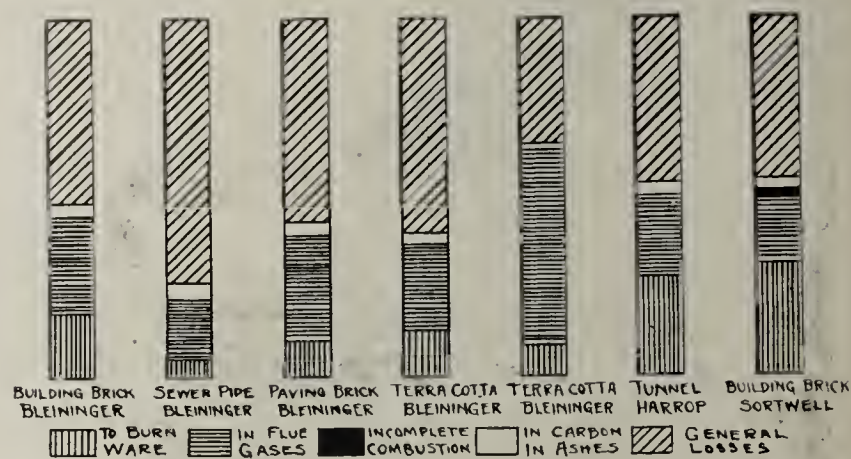
This Curve Which Is Explained in the Cut Is Taken From H. H. Sortwell's Report.

used per M brick, resulting in a saving of 310 pounds of coal per M commons. However, this is not the only saving in regard to the fuel item. Formerly, only mine run coal was used in the burning of the kilns but now a mixture of about 75 to 80 per cent. of slack coal and the remainder

mine run, is used. At the time this data was procured (March, 1919) the cost of slack coal was \$1.60 per ton while the price for mine run was \$2.50 per ton. It will be noted from these facts that the saving in the use of a cheaper grade of fuel alone amounts to a considerable item.

The following data taken at random from the records of the Peoria Brick and Tile Co. show an interesting comparison between the two systems of burning. A record of kiln No. 14, which was started on July 5, 1917, without forced draft and finished on July 14 shows that it contained 61,800 brick and that it took 94,000 lbs. of coal to burn them. This same kiln was fired on March 17, 1918, with forced draft and finished on March 21, taking four days and six hours. On this occasion there were 69,000 common brick set and 54,600 lbs. of fuel used. This data which shows unusual results is not unusual data as far as the records of the burns on this plant are concerned. These same results are obtained consistently. A record burn of sixty-five hours' time has been made at this factory.

There is less handling of ashes which, of course, is a big item and the cost of kiln repairs is much less than where regular burning methods are followed. There is not such high local heat in the fire boxes hence there is less deterioration of the furnaces. Cracks in the kiln crown are also re-



This Cut Shows the Comparison of Heat Distribution in a Kiln Described in This Article and Those Reported by Other Authors Who Have Made Tests on Various Other Types of Kilns.

duced to a minimum. Owing to the simple floor construction there is very little need for repairs there.

CAPACITY OF PLANT INCREASED

Accompanying the cutting down of the burning time of the kilns, there is an increase of capacity obtained. Thus formerly, it took about seven and one-half days to burn the ware, three and one-half days for the kiln to cool and four days for unloading and setting, making a total of fifteen days for a kiln turnover. At present it takes three and one-half days to burn, three and one-half days to cool and four days to unload and set, making a total of eleven days for a kiln turnover. This results in an increase in capacity amounting to 25 per cent. From this it is seen that an increase in capacity can be obtained without the construction of new kilns but by simply installing this system.

Another feature which is noticed in using the forced draft method of burning is the higher per cent. of number one ware obtained in the burn. It seems that due to the air and gases being blown thru the kiln there is a greater churning action or circulation which results in a more uniform temperature thruout the entire kiln and this in turn is responsible for the more uniform burns which are obtained.

HEAT BALANCE SHOWS GOOD EFFICIENCY

In the spring of 1918 H. H. Sortwell, a senior student at the University of Illinois, conducted a test on one of the kilns on this plant and made a report of this test in his

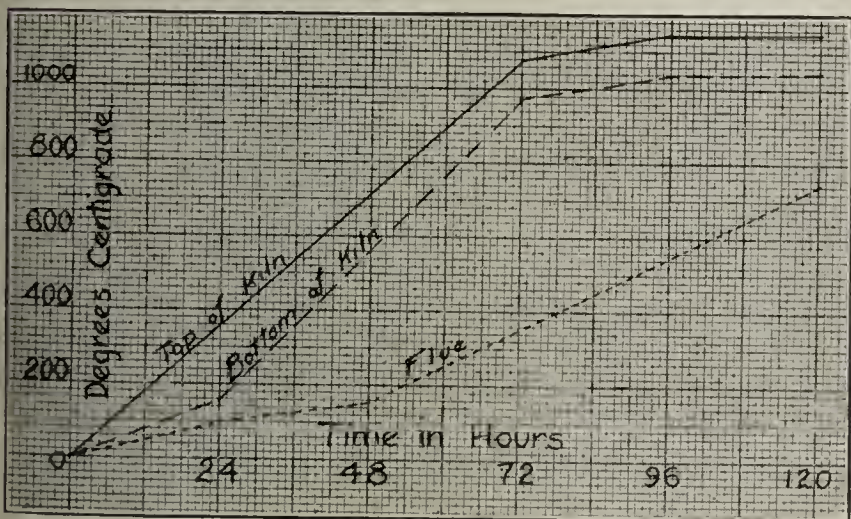
thesis which was entitled, "Heat Distribution in a Kiln Fired With Forced Draft." At that time the system was not quite as well developed as it is now but some astonishing results were obtained. Careful data was kept of the amount of coal burned, the weight of the ashes taken from the fire boxes thruout the burn, the amount of carbon left in the ashes, the quality and temperature of the flue gases, kiln temperatures, draft readings, and other data required for a complete heat balance. This data was analyzed and the following statements made: "A terra cotta kiln reported by Bleining is the only periodic coal-fired kiln reported which shows a lower general loss of heat than the kiln tested. The portion of the heat input used in burning the ware (32.4 per cent.) is higher in the kiln tested than in any other kiln reported, showing a higher efficiency."

The conclusions reached in this report are: "The use of forced draft in ceramic kilns and furnaces reduces the time required for burning considerably, thereby enabling a manufacturer to produce more ware per year on a given investment in kilns. Since the coal consumption is nearly proportional to the length of the burning period, this reduction in time of burning is accompanied by an important saving in coal. Forced draft also produces a more uniform heat treatment thruout the kiln, making it possible to get hard-burned ware in the lower courses of the setting more easily than with natural draft. The kiln tested shows a lower general loss than most other kilns reported, and a higher efficiency than any other, which must be due partly, at least, to the use of forced draft. These important items lead to the conclusion that the use of forced draft with ceramic kilns affords a means to the clayworker of conserving coal, of increasing his output, and of producing more uniform ware."

The system of burning brick by use of forced draft as has just been described has but very few disadvantages and they are really not at all serious. In the first place, burners who have fired kilns with natural draft all their lives find it hard to change their style of burning and for that reason it may be necessary to put entirely new men on the job. Secondly, the power required to drive the fan should be uniform and if steady power is not obtainable it interferes somewhat with the procedure in burning. Thirdly, the fire doors are a source of trouble since it is found difficult to keep them in good condition which is essential.

THE "FOURTEEN POINTS" OF THE FORCED DRAFT SYSTEM

The advantages of the Peoria Brick and Tile Co.'s style of burning may be summed up into fourteen points which

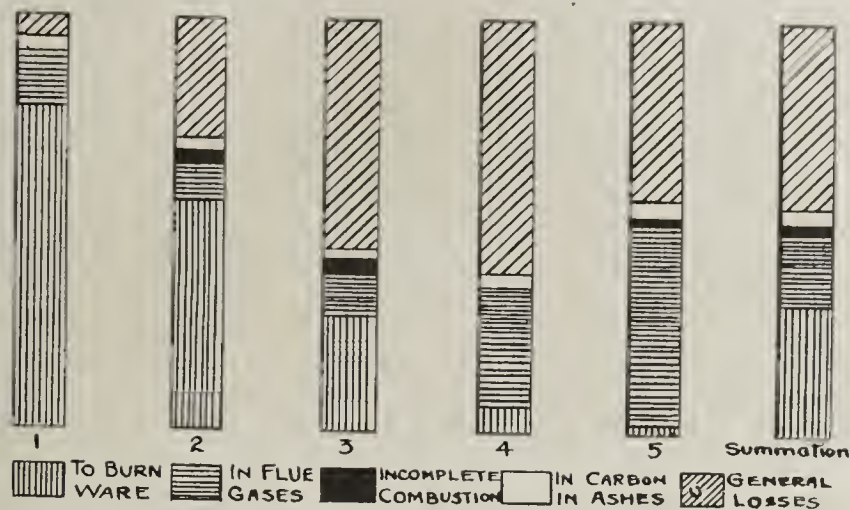


Time-Temperature Curve of Burn Made When Heat Balance Test Was On.

convince one of the unusual efficiency and value of the installation.

1. Only a small outlay of money and very little time is

required to put in the system. It has already been mentioned that the installation amounts to something like \$500 per kiln and it requires only four or five days to equip a kiln.



This Chart Shows the Heat Distribution by Periods in the Kiln Tested by H. H. Sortwell.

2. A very simple type of kiln bottom can be used. In fact, only a main cross flue and stack flue are required in the kiln construction.

3. By reason of the simple floor construction there are no flues to become filled up with sand, ashes and debris, thus eliminating that unpleasant task on every plant of cleaning out the flues.

4. Because of the low position of the fire holes it is a very simple matter to fire these kilns and all lifting of the fuel to the usual height is done away with making the burner's work much simpler.

5. The ware is burned in less than half the time formerly required.

6. The capacity of a plant is increased twenty-five per cent. without building another kiln.

7. Uniform burns are obtainable with this system. The ware from top to bottom of the kilns may be burned to an even degree of hardness.

8. A much higher per cent. of number one ware is possible.

9. Kiln repairs become less frequent. There is less localized heat in the fire boxes hence furnace repairs are reduced considerably. Owing to the simplicity of the floor system repairs on the kiln bottoms are also less frequent.

10. Owing to the smaller amount of fuel used and the good degree of combustion, there is less hauling of ashes to be done.

11. At this plant it has been found that the finishing temperature of the ware could be cut down seventy-five degrees Fahr.

12. As has previously been stated a saving of 310 pounds of coal per M brick burned is one of the system's greatest advantages.

13. Not only a saving in the amount of coal used is noticed but also a saving in the cost of the kind of coal required is possible. Thus a poorer grade of coal such as slack can be used with success.

14. It has been found that a net saving in operating costs of at least 15 per cent. a year has been made on this plant operating on a 55,000 a day capacity for about an eight months' season.

Before closing this article *Brick and Clay Record* wishes to express its thanks to the Peoria Brick and Tile Co. for its liberal co-operation in permitting a thoro inspection of its plant and the perusal of plant records.

PROBABLE STAMPEDE *for* HIGHER PRICES *on* BUILDING MATERIALS *in* N. Y.

PASSING BY ALMOST half a million dollars the \$6,-300,000 Victory Loan quota the building trades of New York felt on Saturday, May 10, that they had let down the last bar of war-time building restraint and faced a free construction market the size of which seems to be beyond current conception, according to The Dow Service Daily Building Reports.

Several contributing factors combined to make the day memorable. First of these was the fact that the leading building brick distributors of the city had at last come into the market to make forward purchases at current prices of \$15, with even higher quotations for especially fine grades of brick. Next was the announcement that the price situation was at last to be governed by supply and demand instead of by Federal paternalism and finally, engagements for building loans that had been denied applicants for many months had been freely granted with far brighter prospects for something like a normal lending market at once.

J. J. McNamara, secretary of Otto M. Eidlitz, chairman of the Building Trades Employers' Association Victory Loan campaign, gave out this statement May 10 for Mr. Eidlitz:

BUILDING TRADES GO "OVER THE TOP"

"The building trades are to be congratulated for the splendid showing they have made not only in passing over their quota in this drive, but in every other drive made in the war financing campaigns. Not the least glorious in the nation's rests of patriotic industries as that of the building trades and building material manufacturers, and facing as they do a remarkable era of business and resultant prosperity the measure of mere felicitation that can be expressed is negligible beside that which they deserve for their loyalty, self sacrifice and co-operation."

Structural steel interests reflected at the week-end the general sentiment regarding the future of building material prices, i. e., that the bottom has been reached for the immediate building market. No conservative authority on May 10 would say what the trend of prices next year would be, but the opinion is prevalent that prices, thrown upon an open market by the removal of the last restraint by Federal authority with the passing of the industrial board of the Department of Commerce, would stimulate construction. The whole construction market has been hoping against hope that steel prices would be forced lower, and that if they dropped other building material commodities would also drop. A general postponement of construction work has followed while the scarcity of houses has become intensified.

PROBABILITY OF HIGHER PRICES

By the same token, there are those in the speculative market who believe that if prices of structural steel go higher, other building materials will follow suit, but counterbalancing that tendency, as far as New York is concerned, all the power of organization among distributors is being exerted to keep prices to the prospective builder at present levels, or at least only slightly above it. Their success will depend entirely upon how the building movement gets under way. If there is a stampede for building there will be a stampede toward higher prices, but the probabilities are, with a careful scrutiny of credits, both at manufacturing and at distributing points, this stampede will be

controlled at least until such time as the manufacturers can place at the disposal of the market an adequate supply of materials so that prices will not advance to dangerous levels. The financial institutions of the country are cognizant of the danger of uncontrolled speculation in building construction, and, co-operating with the credit machinery so finely perfected during war times and since the signing of the armistice, much of the menace of a building boom at this time, with resultant skyrocketing of prices, has been reduced.

The building material dealers of New York took the first steps toward price inflation some time ago and last week the glass interests joined the movement. Like other basic building material lines when manufacturing prices were advanced some time ago in order to stabilize the jobbing market, the distributors absorbed the higher rates, thereby keeping the price to the consumer such as not to make him fear to proceed with his building plans. The manufacturers, last week, in line with further efforts to stabilize the market on the price correction movement common to all other building materials, dropped their price 6 cents a foot on all plate glass over twelve square feet which puts the market back to what it was before building construction assumed activity altho the change does not affect the price to the consumer any more than did the price advance to jobbers some time ago.

Architects figuring elaborate interiors will be advised that further sharp advances are being made in Italian marbles, this product now being sold here at \$8 a foot for second material. Black and gold Italian marble is entirely out of the market and none can be had. There is, however, a liberal supply of domestic marble at nominal prices for immediate acceptance, but the same cause making for restricted quarrying in Italy is beginning to be felt in domestic quarries, namely, lack of labor.

Window glass mills thruout the country have finished their first "fire" and have left market conditions about as they were at the first of the year, namely, with low stocks. There is some movement on foot to further reduce the price on plumbers' earthenware, but the results of the Cleveland conference had not been received up to noon May 10. There is a slight reduction in the price of metal lath as reported by the New York Building Material Bureau of Statistics Saturday morning, reflecting the change downward in the price of metals. Linseed oil and lumber are steadily climbing toward higher price levels, but there are exceptional reasons in each case why this is so. These concern great demand and low supply, conditions which, when building conditions approach normal, very likely will affect the price of more basic materials. The real menace of the building market is not high prices, in themselves, but in the possibility of transference of investment money from stocks into building construction in the light of a free market, in which event there will be danger of over-speculation.



Disposition of Government Surplus Property

The general policies of the War Department in the disposal of surplus property, were enunciated by C. W. Hare, Director of Sales, to a committee representing the Trade and Technical Papers of the country, at a recent

meeting in his office in the Munitions Building, Washington.

Those present were: Mason Britton, Chairman, McGraw-Hill Co., New York; A. C. Pearson, president The Associated Business Paper, Inc.; V. E. Carroll, chairman the New York Editorial Conference; A. I. Findlay, Editor Iron Age, New York; David Beccroft, Editorial Director The Class Journal Company; Jesse H. Neal, Executive Secretary, The Associated Business Papers, Inc., New York.

In addition to Mr. C. W. Hare, there were present from his department, E. C. Morse, Assistant Director of Sales; T. R. Elcock, Chief of the Sales Promotion Section; and L. G. Chapin, Assistant Chief Sales Promotion Section.

Mr. Hare stated that the War Department would dispose of its surplus materials by first consulting with the various branches of the government to ascertain what if any, could be utilized in regular government work. After the government requirements have been satisfied, the producers of each particular commodity will be called into conference to advise with the Director of Sales as to the best method of getting the remaining amount of the commodity back into the usual channels of trade.

If, as has been the case in the disposal of copper, sulphur, lead, wool and lumber surplus stocks, the industry is able to contract with the government to dispose of its surplus within a reasonable length of time, paying the government the current market prices, it would be the policy of the government to make such an arrangement.

Should both of the methods mentioned fail, the surplus property will be offered to the general public thru auction sales, or by sealed bids, or in any other manner which will enable the government to obtain the best prices.

A Sales Promotion Section has been established under the supervision of T. R. Elcock, Jr., to collect all information pertaining to the disposition of surplus property and to see that appropriate information reaches interested industries thru the proper Trade and Technical Papers.

A. S. of M. E. to Meet in Detroit

The spring meeting of the American Society of Mechanical Engineers will open at the Hotel Statler, Detroit, Mich., on June 16, and close June 19. The aims and organization of the society are to be discussed at the opening session, which will be followed by papers on industrial research and subjects of industrial relations. Papers are also to be contributed by local sections and the last day of the convention will be devoted to miscellaneous technical sessions, one of which will be for the discussion of fuels, including powdered fuel and oil fuel.

The Detroit Local committee is arranging many events for the entertainment of the members of the Society and others who may attend. Among these will be an afternoon and evening devoted to a boat ride on the lake, during which time a dinner will be served.

Annual Meeting of American Society for Testing Materials

The annual meeting of the American Society for Testing Materials will be held as usual at the Hotel Traymore, Atlantic City, N. J., beginning in the forenoon of Tuesday, June 24 and closing with an evening session on Friday, June 27.

The attention of the members is particularly directed to

the memorial session to be held on Tuesday evening in honor of the memory of Dr. Edgar Marburg, secretary-treasurer of the Society from 1902 until his death on June 27, 1918. The reception to members and guests which in passed years followed the presidential address, will this year be omitted as a mark of respect to Dr. Marburg.

Manufacturers of clay products will be particularly interested in the eighth session on Friday, June 27, at 10:00 a. m. This will be under the heading of "Ceramics, Lime and Road Materials" and will include a report of Committee C-3 on Brick by Edward Orton, Jr., chairman; report of Committee C-6 on Drain Tile, by A. Marston, chairman; report of Committee C-8 on Refractories, A. V. Bleining chairman, and "Preventable Defects in Refractory Brick," by C. E. Nesbitt and M. L. Bell.

Appealing to the Workman to Build

Short and concise advertising that is very simple in its argument, yet quite impressive, is that which recently appeared in a daily edition of the Chicago "Tribune" in the interest of building stimulation.

The accompanying cut illustrates this copy which occupied a small amount of space on the page. It is a good

FOR ONE HUNDRED YEARS

THE PRICE OF LABOR

has been steadily rising. Why postpone building a home of your own in the vain hope that the price of labor will now fall to any great extent.

Why should a worker refuse to invest until some other worker receives less pay?

Your real estate agent will show you the property.

Your lawyer will see to closing the deal.

The Chicago Title and Trust Company will furnish the title papers.

CHICAGO TITLE AND TRUST COMPANY

69 West Washington Street

Assets Exceed \$12,000,000

No Demand Liabilities

Copy for Stimulating Home Building Which Appeared in a Recent Edition of the Chicago "Tribune".

example, we think, of how effective advertising copy can be designed which will be very simple and economical and yet make an appeal that will carry weight. In this case the appeal is directed to the toiler or small home builder.

A recent contract was signed with Williams & Finnis, brick manufacturers of Oreville, Wash., for 200,000 brick to be used in the construction of an auditorium and garage.

COST ACCOUNTING

as APPLIED *to the*

BRICK BUSINESS

This Is a Paper of Great Value to the Clay Products Manufacturer, Written by a Practical Brick Man Who Has Given Considerable Thought to the Subject—Read Before the First Annual Meeting of The Common Brick Manufacturers Association of America, La Salle Hotel, Chicago, Feb. 13, 1919

By H. W. Conway

of the Barkwill-Farr Co., Cleveland, Ohio

HAVING BEEN REQUESTED to confine my talk to the subject of "Accountancy" as applied to the brick industry, and feeling that possibly there may be a certain amount of skepticism in your minds about ever applying accountancy to brick, I am going to give you a definition or two of the word "System". System is the compass which reveals the general direction of the ship to the pilot. System is the chart which shows the particular course you have pursued this year so you may be able to avoid the same rough spots on the next season's voyage.

System is a glass which reveals small things that cannot be observed with the naked eye. System so magnifies common place sins that they are at once very apparent thereby nullifying your excuse for ignorance or indifference. System makes you account to your business and your business account to you. A properly installed system only brings to the manager's gaze, such matters as are not operating right—automatically keeping him employed on the most essential details which really need his undivided attention.

As I have come in touch with brick makers in various sections of the country, I have heard some of the following excuses offered for not having a system by which to operate their particular business. I am therefore presenting below some of the more common arguments and am attempting to defeat these arguments.

DEFEATING SOME COMMON ARGUMENTS

FIRST—Some men will say that they are only running a small business and are right on the job all the time to get first-handed what is going on, and therefore a system seems unnecessary. A pilot who is right up on deck with his eyes open every minute and sees every movement of the ship must have his compass—SYSTEM—or you know the result, and it seems to be more important to watch the small boat for she cannot stand the storms so well. When we are right with an individual continually, quite a change can come over his personal appearance and it will scarcely be noticeable to us, but one who has not seen the party for a year or so will be shocked at the change. This is true of man's business. Sometimes things are not apparent to us if we are up too close to them.

SECOND—Another man says, "Well, we have gotten

along without a system all these years so I cannot see any real need to begin now." While it is true that you have been able to get along, I submit that you cannot tell how far you have gone, how fast you have traveled, nor where you stand at the present time, and if an up-to-date man with a system enters your field as a competitor, you will have to rise earlier in the morning and retire later at night than he does in order to keep pace with him, and it may be that even then he will beat you out. Business conditions are changing very rapidly and we are obliged to adapt ourselves to the changes whether we want to or not if we would get the best results, or, I might say, "just wait until an Income Tax inspector comes to check you up, and you will see the need of a system immediately."

THIRD—Another man says, "it costs too much." I am satisfied that the average concern who has a good system installed will testify that they could not operate without it. Net cost is always measured by reducing the cost by the amount of the credits, and I maintain that no human being can tell just what his savings were, thru the use of system—hence it is impossible for him to tell you the cost. System must be accepted by faith, based upon the testimony of others.

FOURTH—Another individual says, "well, a system may be all right, but we haven't anybody to run it." This is true with every concern until they have connected with the right individual, I might say that much of the prejudice in the minds of the business man in the country today is due to the fact that he did not have the right man handling his system, and as a matter of course, he gets too much, too little or the wrong kind of system—the natural result being that he became so disgusted that he christened system as "red tape" and will forever, until the right man comes along. If you believe in system, get the best man you can find and then believe in him and his system. Do not hamper him,—give him full authority to go ahead and see to it that he has your cooperation. There is such a thing as "red tape", and that is when you have more system than your business requires. This condition is generally as deplorable as one where there is no system.

FIFTH—Another says, "I would install a system in a

minute, if you could show me where it would effect a saving." This is the same old argument which some business men used to put up to the salesman of the adding machine, but today even the banks—the most conservative institutions on earth—use the adding machine, and will tell you that they cannot get along without it. Our largest concerns today all employ a competent man and furnish him with whatever assistance he may need to run a first class system for them—and why?—because they have learned that they cannot successfully operate their business without one. Now, if this is true with large concerns, is it not sensible to presume that the same principle would apply to the small concerns? The only difference being in the elaborateness of the system required. Do the concerns with whom you are familiar throw their system out after they have been operating same for a year or two? Well, sometimes they do, if they can succeed in finding a system which they consider better than the one they have been using.

A GOOD SYSTEM CONTROLS EVERY OPERATION

Now, gentlemen, I trust you are all agreed that a system is not only a good thing for some, but it is a good thing for all. A well regulated system must control each operation of the business as well as furnish the necessary information to the proprietors, by which they will be acquainted with the net results which are being produced by their business.

The work of your office should be divided as it were into departments namely, pay-roll department, purchasing department, sales department, cost department, and general accounting department, and the size of the business will control the size of the department. For instance, in a small business, it will not be necessary to have separate rooms, separate sets of books, etc. for these separate departments, but an accounting system has particular forms, books, etc. which apply more specifically to the work coming under these different classifications, and a system should therefore be planned which will make it possible for your business to expand without necessitating any change in your system of handling the business. For instance, such as operating an additional plant, increasing the capacity of a plant or closing a plant down—and you will find no matter how large or how small your business may be, if one individual in your office is made responsible for the duties connected with a certain department, you will get better results than you will if you do not have your work so classified.

If you are operating more than one plant, each plant should be made to stand upon its own feet, and your system should reach down into each of your plants or departments and bring the necessary information to your general accounting department, so that a report can be made up as often as is desired, which will furnish the manager with the information he requires to successfully operate the business as a whole. You owe it to your employes to have a system which will protect *them* as well as *you*, for the most able man of our country today would not connect with a concern who did not have system which made it possible for him to manifest to the owners of the business, the true records of his accomplishments and one which would furnish an intelligent comparison between the results he has produced and those of his predecessor.

Do not get up a system which costs money to install and then permit someone to block the operation of it. Let everyone be thoroly familiar with it, and be extremely careful to see that new men are properly instructed when a change of your system is made in your organization. Do not educate the man in charge of your system up on a *red tape* basis, but rather, emphasize to him the great importance of his job and expect things from him. Get thoroly familiar

with the entire system yourself. By all means *use* the information after it is compiled. Insist upon having it at a certain time each month and do not attempt to hold your monthly meetings without a financial report.

FORMS FOR UNIFORM SYSTEM

Now we will turn our attention to the proposed forms which have been prepared, with this "uniform system" idea in mind. In order that you may more intelligently follow in the explanation of these proposed forms, I have worked out the operation of a month's business on them and have numbered the lines on the left edge of the sheet so that as we proceed with the explanation, the items be referred to by these numbers.

Now, if you will take up Exhibit C—Plant Cost Statement—we will begin with this, inasmuch as this covers the

THE JOHN JONES BRICK CO.

BALANCE SHEET

Month of November 30, 1918

EXHIBIT "A"

FIXED ASSETS

1. Land		\$120,000.00
2. Buildings and equipment.....	\$ 60,400.00	
3. New construction and equipment.....	2,500.00	
4. Miscellaneous tools and machinery.....		62,900.00
5. Horses		48,650.00
6. Wagons and harness.....		12,000.00
7. Trucks and autos.....		4,500.00
8. Office furniture and fixtures.....		7,800.00
9. Property accounts		3,000.00
10. Deferred charges		13,698.49
		3,265.51
11. Total fixed assets.....		\$275,814.00

QUICK ASSETS

12. Cash	\$ 10,640.25	
13. Liberty Bonds, 4th Issue.....	7,500.00	
14. Accounts receivable.....	56,870.00	
15. Accounts receivable suspense.....	4,966.10	
16. Accounts receivable, sundry.....	508.00	
17. Notes receivable.....	6,687.25	
18. Mortgages receivable.....	18,750.00	
19. Inventory—Brick	39,119.75	
20. Inventory—General supplies.....	12,467.00	
21. Total quick assets.....	\$157,508.35	

QUICK LIABILITIES

22. Notes payable.....	\$ 55,000.00	
23. Accounts payable.....	45,487.98	
24. Accrued accounts.....	5,687.42	
25. Total quick liabilities.....	106,175.40	
26. Net quick assets.....	51,332.95	51,332.95

FIXED LIABILITIES

27. Net total assets.....		\$327,146.95
28. Mortgages payable.....		\$ 75,000.00
29. Capital stock.....		225,000.00
30. Reserve for bad accounts.....	\$ 1,846.95	
31. Reserve for depreciation.....	17,500.00	
32. Reserve for specials.....	2,500.00	
		21,846.95

33. SURPLUS		\$327,146.95
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operation of the business from the beginning. You will observe at the top of this statement I have shown gross production less shrinkage, in order to arrive at the net production and I wish, at this time, to emphasize this shrinkage feature of the brick business.

While the illustration indicates a one per cent. shrinkage having been deducted from the gross production, it does not follow that one per cent. is the proper percentage to use, for I have known of shrinkages all the way from one-half of one per cent. to 10 per cent. and you will no doubt be surprised at this item when you learn exactly what it amounts to. The best system I know of, for arriving at shrinkage, is by means of a kiln-record, which indicates the amount of brick set in each kiln, as well as the amount shipped out, so that you can arrive at the exact shrinkage on each kiln. If this is done in this manner, it enables you to determine at the time the real cause for the shrinkage and offers you the opportunity of comparing one kiln with an-

other, which will show up net results and enable you to take the necessary steps to avoid the recurrence of any irregularities which tend to cause a shrinkage.

THE JOHN JONES BRICK CO.
PROFIT AND LOSS STATEMENT.
Month of November, 1918
Exhibit "B"

			Averages Per M.
INCOME			
1. Gross profit "A" plant.....		\$21,523.10	
2. Gross profit "B" plant.....		21,523.10	
3. Miscellaneous income.....		167.50	
4. Rentals		46.75	
5. Machine shop		500.00	
6. Blacksmith shop.....		200.00	
7. Harness shop.....		175.00	
8. Total gross profit.....		\$44,135.45	
9. Total sales (11,531,550).....	\$154,336.70		
EXPENSE			
10. Sales office expense.....	\$ 300.00		
11. Sales office salaries.....	1,500.00		
12. Salesmen's expense.....	190.00		
13. Salesmen's salaries.....	1,475.00		
14. Commissions	100.00		
15. Discount allowed.....	1,543.36		
16. Advertising	1,603.57		
17. Depreciation	180.00		
18. Insurance	16.25		
19. Taxes	10.75		
20. Total selling expense.....	\$ 6,918.93	\$ 6,918.93	\$0.60
21. Excess delivery expense.....		671.22	.10
22. Net profit for November.....		36,545.30	
		\$44,135.45	
RECONCILEMENT OF SURPLUS ACCOUNT			
23. Deficit Oct. 31, 1918.....	\$ 6,545.30		
24. Adjustment on taxes (1917).....		300.00	
25. Fire loss adjustment (1917).....	5,000.00		
26. Net profit for November, 1918.....		36,545.30	
27. Dividends	20,000.00		
28. Surplus November 30, 1918.....	5,300.00		
	\$36,845.30	\$36,845.30	

If this shrinkage is accounted for as you go along, you can maintain a running inventory on your books of brick on hand, which will be fairly dependable, but, if you depend upon your physical inventory to show up your shrinkage, you will not only be shocked at the vast shortage and unable to account for same, but not have dependable records throughout the year for your guidance, and it must be borne in mind that the only production from which you can figure average costs is the "net production."

ITEM NO. 1—CLAY OR SHALE

This item includes cost of any clay or shale purchased, together with transportation costs or handling labor. This is an item which is lost sight of by many brick-makers who happen to be so fortunate as to own their own clay supply, but it is an item of expense just the same when taken from your own bank as tho it were purchased.

The proper method for handling clay which is consumed out of your own supply is to have an asset value on your books to represent mineral deposits, and then as the clay or shale is consumed, charge against Item No. 1, the cost of same, using the same price per yard as was used when your asset account was established, and credit a like amount to an account called "reserve for extinguishment."

It generally requires about $1\frac{2}{3}$ cubic yards to make a thousand ordinary common brick.

If this item is handled in this manner, it will then be possible to use this expense item as a legitimate deduction in rendering your Income Tax return, provided at the close of the year you deduct your "asset account" by the amount set forth in your "extinguishment account."

ITEM NO. 2—CLAY OR SHALE MINING

This item is only used when it is necessary to mine your own clay and includes laborers in the clay bank, steam shovel operator, locomotive engineer or cart-man and clay puller,

as well as fuel, electricity or general supplies, exclusive of maintenance items in connection with the steam shovel or locomotive. Any labor or teaming necessary to the stripping of the bank would also be included under this heading.

Item No. 3—Steam Shovel Maintenance and Item No. 4—Locomotive Maintenance—These items include repairs, of whatever nature, to the steam shovel or locomotive and are kept separate in order that you may compare the equipment of one plant with that of another, in order that you may have an intelligent check upon the operator of your equipment.

Item No. 5—Total Clay Mining—This item shows the complete cost of raw material ready for use at the plant in your clay storage bins, if you happen to be blessed with such a splendid facility.

Item No. 6—Brick Machine Operation—This item includes lubrication and molding sand, as well as any labor or teaming in connection with same and all labor necessary for the operation of the brick-making machine including rackers, but not including any labor on repair work.

Item No. 7—Power—This item includes fuel, light and heat, as well as labor of engineers, fireman or labor around boiler, or engine room, exclusive, however, of any labor or material in connection with repairs.

Item No. 8—Machinery and Tool Maintenance—This is any repairs to any machinery—engine, boiler or tool, whether labor or material, exclusive of such items as you wish to show separately, namely, steam shovel or locomotive repairs, as well as repairs to buildings, etc.

Item No. 9—Total Making and Drying—This total represents the necessary cost to transform the raw material into dried green brick in the dryers, ready for setting into kilns.

Item No. 10—Wheeling and Setting—This item covers the necessary cost of removing green brick from the dryers to the kilns and setting them in the proper order in the kilns for burning, but does not include the labor or material used in closing the kilns.

Item No. 11—Kiln Work—This item includes the necessary labor to close kilns after they are filled, preparatory to burning, as well as opening same after they have been burned, and hauling out rubbish. Any repairs on kiln walls are not included in this item.

Item No. 12—Burning—This item includes all fuel used for burning as well as teaming and labor in connection with same and the regular kiln fireman's labor.

Item No. 13—Kiln Wall Repairs—This is any material or labor necessary to keep the kiln wall in repairs.

Item No. 14—Total Setting and Burning—This represents the necessary cost to transform a dried green brick to a finished article, ready for the market.

Item No. 15—Total Direct Cost—This figure represents the total cost entering into your product which is governed by the quantity of production and increases or decreases with the production. The average cost per thousand here however, is not affected by an increased or decreased production.

Item No. 16—General—This item includes superintendents or assistants, foreman and miscellaneous factory expense not properly chargeable to any specific amount.

Item No. 17—Building Maintenance—This is the necessary labor and material used for repair to plant, buildings only.

ITEM NO. 18—DEPRECIATION

This is an item which to my mind is not given sufficient consideration and, of course, it is impossible for any human being to accurately determine at what figure depreciation should be calculated, inasmuch as same is made up of two distinct phases, namely, wear-and-tear and obsolescence.

We can determine in a fairly satisfactory manner what wear-and-tear on an average building is, but the obsolescence feature is one on which we are more or less in the dark, so that it has seemed wise to our best accountants to figure depreciation as liberally as is consistent with the particular business, and it should be borne in mind that the charge for this depreciation should be a monthly charge, and that a credit for a like amount be passed thru each month to an account known as "Reserve for depreciation," and at the close of the year, this "reserve account" is charged off, reducing your asset values. If this is handled in this manner, the "depreciation expense" will then serve as a legitimate deduction in filing your Income Tax returns. It will also establish uniformity thruout the year to cover this expense. Please do not confuse "depreciation" with "repairs" because they are two separate and distinct expense items. Depreciation is generally calculated by determining in advance that your buildings and equipment will be adequate for handling your business for a certain number of years, and a sufficient depreciation charged off each year to entirely consume the "asset account" at the expiration of that

THE JOHN JONES BRICK CO.
A PLANT COST STATEMENT
Month of November, 1918
Exhibit "C"

Gross production					\$3,183,600	
Shrinkage—1 per cent					31,836	
Net production					\$3,151,764	
CLAY OR SHALE MINING						
	Direct Costs			Aver-	Total	
	Labor	Material	Totals	ages	Aver.	
1. Clay or shale		\$ 318.36	\$ 318.36	.1000		
2. Clay or shale Mining	\$ 725.85	94.55	820.40	.2603		
3. Steam shovel maint	48.85	90.77	139.62	.0443		
4. Locomotive maint	1.58	47.27	48.85	.0155		
5. Total clay mining	\$ 776.28	\$ 550.95	\$ 1,327.23	.4201	.4201	
MAKING AND DRYING						
6. Brick machine operation	\$ 2,626.36	\$ 141.83	\$ 2,768.19	.8783		
7. Power	787.94	3,151.76	3,939.70	1.2500		
8. Machinery and tools maint	221.88	630.35	852.23	.2704		
9. Total making and drying	\$ 3,636.18	\$ 3,923.94	\$ 7,560.12	2.3987	2.3987	
SETTING AND BURNING						
10. Wheeling and setting	\$ 1,651.52		\$ 1,651.52	.5240		
11. Kiln work	1,120.45	\$ 630.35	1,750.80	.5555		
12. Burning	630.35	3,151.76	3,782.11	1.2000		
13. Kiln wall repairs	48.85	39.40	88.25	.0280		
14. Total setting and burning	\$ 3,451.17	\$ 3,821.51	\$ 7,272.68	2.3075	2.3075	
15. Total direct costs	\$ 7,863.63	\$ 8,297.40	\$ 16,160.03	5.1263		
PLANT EXPENSES—Indirect Costs:						
16. General	\$ 1,103.12	\$ 375.06	\$ 1,478.18	.4690		
17. Building maint	69.97	104.95	174.92	.0555		
18. Depreciation		3,750.60	3,750.60	1.1900		
19. Insurance—Fire		349.85	349.85	.1110		
20. Insurance — (on pay roll)		477.18	477.18	.1514		
21. Taxes (personal and realty)		1,260.71	1,260.71	.4000		
22. Piling out brick	315.17		315.17	.1000		
23. Expense absorbed from other plants	787.94	1,575.88	2,363.82	.7500		
24. Over head expenses	2,251.62	5,556.85	7,808.47	1.2324		
25. Total plant expenses	\$ 4,527.82	\$ 13,451.08	\$ 17,978.90	4.4593	4.4593	
26. Grand total manufacturing cost	\$ 12,391.45	\$ 21,747.48	\$ 34,138.93	9.5856	9.5860	

period of years. For example, a building which was carried on your books at \$10,000 is estimated to be good for ten years. Your depreciation rate would then be 10 per cent. per year off of the original investment or \$83.33 per month, for each month of each year so that the beginning of the second year your "asset account" would be \$9,000.

ITEM NO. 19—FIRE INSURANCE

This item represents the fire insurance on plant buildings and equipment—premiums should be charged in monthly, the same as depreciation, and the best method for handling this item is to distribute the premium equally over the number of months for which the policy will be in force and carry the unused portion of the premium in an "asset account" known as "prepaid insurance," crediting the monthly charges to it until it is consumed.

Item No. 20—Insurance on Pay-roll.—This item is commonly known as "Workmen's Compensation Insurance" or "State Insurance" and the premiums for same are calculated at certain rates per \$100 on the amount of your pay-roll. The proper method of handling this is to calculate each month the amount of your premium based upon your pay-roll and put same thru as a monthly charge. The premiums for this insurance are usually paid in advance, based upon an estimated pay-roll, and where this is true, the advance payment for this insurance would be set up as a "prepaid pay-roll insurance" account, which will be consumed by the monthly charges going thru.

If all your insurance is handled in this manner, it keeps the charge for insurance uniform, and maintains a proper "asset account" on the books to represent the unused portion of the premium.

Item No. 21—Taxes—(Personal and Realty).—This item includes state and county taxes on real estate and personal property—only this item is handled somewhat differently from insurance inasmuch as taxes are paid in arrears. The proper method for handling this item is to determine from the last previous paid tax receipts, the amount of taxes you will be required to pay for the coming period and put thru a monthly charge to "taxes," crediting a like amount to an account known as "accrued taxes."

When you have the figures on your books correctly, you will at any tax-paying period, show a whole year's taxes due, and when one installment is paid, the payment will be charged to the "accrued account" and a balance will still be shown in your "accrued account" which will represent a six month's period still due.

ITEM NO. 22—PILING OUT BRICK

This item includes the necessary cost in labor and teaming to remove finished brick from the kilns to piles in your yard, in order to make room in the kilns for more product.

Item No. 23—Expense absorbed from other plants.—EXAMPLE.—A company operating several plants and having one of them closed down will have certain continuous expense in such a case, such as insurance, taxes, depreciation, etc., which must be absorbed by the other producing plants in order that your entire cost for the month may be included in your cost of production. This item when shown as a separate item reveals very forcibly, a part of what it costs to have a plant closed down, and is an item which many times is overlooked in calculating costs of production. I have seen statements of costs rendered before now by some very reputable concerns, which, I am satisfied, did not include more than 75 per cent. of their average cost.

ITEM NO. 24—OVERHEAD EXPENSES

This item is merely the summary carried over to this exhibit from Exhibit D and the division of these items is shown under a separate exhibit, in order that we may have comparative averages on these separate expenses.

Item No. 25—Total Plant Expenses.—This is an important item as it reflects the total expense, the average of which can only be increased or decreased by the volume of your production inasmuch as the expense items are fixed items.

Item No. 26—Grand Total Manufacturing Cost.—This

item, with the "loading cost" added, represents the total f. o. b. plant manufacturing cost.

Now we will take up Exhibit E—Expense Statement—and you will observe that these items are being charged in as part of your "manufacturing cost" as shown in totals in Item No. 24 on Exhibit C. This is a method which is contrary to the system of many brick-makers, and yet, I am sure, you will agree with me that it is really as much a "cost of production" as is other labor, and I maintain that you do not set forth the proper valuation on your inventory of finished material on hand unless it is valued at a cost, which absorbs what is generally termed "overhead expense."

This expense is pro-rated over your several plants, based upon the production of each, and in the sample forms which I have submitted, I have assumed that there are two plants—A and B—and that each has produced exactly the same result, in order to avoid the necessity of making an additional exhibit.

ITEM NO. 1—TOTAL NET PRODUCTION

This item is arrived at by taking the sum of the net production of all plants.

Item No. 2—Administrative.—This item includes officers' salaries and expenses.

Item No. 3—Office.—This item includes general office supplies, printing, postage, and stationery, telephone and telegraph, office rent, light and heat and office salaries, exclusive of officers. Sales office expenses however, are excluded from this item.

Item No. 4—Legal Expense.—This is legal work of whatever nature, and I would suggest the advisability of putting thru a monthly charge to cover the approximate legal expense based upon previous experience, because of the irregularity with which attorneys render their bills.

Item No. 5—Experimental.—This item is generally provided for by an appropriation for the year which can be distributed equally over the twelve months. The monthly charge in going thru will be charged to "experimental expense" and credited to "reserve for experimental," and the actual bills coming thru for material and labor which are used for experimental purposes, are charged to the "reserve account" when they are put thru, leaving an adjustment necessary at the closing of the year for simply the amount you have varied from the original appropriation.

Item No. 6—Interest.—This is interest on all indebtedness, less discount and interest earned. It is advisable to keep these separate items in separate accounts on your books, but the *net result* is all that is required on the expense statement. Discount allowed your customers is not included in this item.

Item No. 7—Bad Debts Estimated.—It is a commendable practice to estimate from past experience, the approximate average the losses on Accounts Receivable have been to your total sales and then put thru a regular monthly charge to "Bad Debts Estimated" account, for a like amount, based upon the sales for the month, setting same up in an account known as "Reserve for Bad Accounts." Then, as an Account Receivable is definitely determined to be worthless, it can be charged to your "reserve account" and your "reserve account" at the close of the year, will then reflect the necessary figure to be used in filing your Income Tax Return, as well as establish uniformity thruout the year for this particular expense.

Item No. 8—Taxes—(Federal and State).—This item includes Income Tax and Excess Profits Tax, Corporation Stock Excise Tax and regular State Corporation Stock Tax. These items should all be handled in the same manner as was outlined under Item No. 21 in Exhibit C, and for further information regarding the fluctuation which may

occur in connection with the Income or Excess Profits Tax, see Item No. 10 below.

Item No. 9—Insurance—General—(Fire and Liability).—Insurance of any kind other than regular "plant insurance,"

THE JOHN JONES BRICK CO. A PLANT GROSS PROFIT STATEMENT Month of November, 1918 Exhibit "D"

SALES	Quantity Shipped	Sales	Totals	Aver- ages	Aver. Per M.
1. Team and truck..	3,000,000	\$42,000.00		14.00	
2. Car loads.....	2,350,000	29,375.00		12.50	
3. At yard.....	6,875	68.75		10.00	
4. Hired equipm't	408,900	5,724.60		14.00	
5. Total sales.....	\$ 5,765,775	\$77,168.35	\$77,168.35	13.38	
DELIVERY EXPENSES					
6. Loading cost.....		\$ 1,431.44		.25	
7. Cartage (team or truck)		5,113.35		1.50	
8. Freight		2,115.00		.90	
Total delivery expense		\$ 8,659.79	\$ 8,659.79		
INVENTORY ADJUSTMENT					
On hand Oct. 31, 1918,					
9. 2,896,897@ \$7.95.....	\$23,030.33				
3,465,384@ 8.35.....	28,935.95				
November production					
10. 3,151,764@ \$9.5856	\$34,138.93				
On hand Nov. 30, 1918,					
11. 596,506@ \$8.3500	\$ 4,980.82				
3,151,764@ 9.5856	34,138.93				
12. Cost of sales.....		46,985.46	\$46,985.46	8.15	
		\$86,105.21	\$86,105.21		
13. Gross profit for November, 1918.....			\$21,523.10		
			\$77,168.35		

except the insurance on traffic and sales department equipment.

ITEM NO. 10—MISCELLANEOUS ADJUSTMENT

If you can anticipate at the beginning of the year that certain adjustments will be necessary at the close of the year, which will cause sudden loss in the last month's business, should it all be thrown in at the time, and to avoid this, establish the practice of setting aside an amount monthly, the aggregate total of which for the year will be equal to the estimated adjustments, it will make it possible for you to absorb the difference on inventories, estimated taxes or any other unexpected expenses.

This establishes a uniform cost thruout the year and does not necessitate such a large adjustment when closing out the books for the year, and if it should not be needed, will simply be that much velvet on the year's operation. The monthly charge on this account will be charged to "Miscellaneous Adjustment" account and credited to an account known as "reserve for special purposes." Then, whatever adjustments are necessary at the close of the year, will be made against the "reserve account."

Item No. 11—General Expense.—This item includes anything like club dues, magazine subscriptions or any kind of expense for which there is no specific account.

Item No. 12—Total Overhead Expense.—This is the total expense which is not chargeable to any particular plant, but is pro-rated over each plant and consumed as "factory cost." I recommend this method for the reason that it enables you to properly value your inventory of brick, which without it would only be valued at the direct cost figure and the "overhead expense" item lost sight of. It is important to have the proper valuation of your inventory, especially in case of fire.

Item No. 13—Number of Brick Delivered.—This item merely represents the quality of material delivered by your own equipment.

Item No. 14—Feed.—This item includes the cost of all feed purchased, plus the necessary teaming and labor to

place same in your stables, ready for use, but does not include barn labor for feeding horses.

Item No. 15—Veterinary.—This includes all horse-medicine or veterinary surgeon's service.

Item No. 16—Stable Expense.—This item takes in all barn-men's labor and general stable supplies, exclusive of feed and medicines.

Item No. 17—Wagon and Truck Repairs.—This item includes any repairs to wagons, autos or trucks of the Traffic Department, exclusive of rubber tires.

Item No. 18—Harness Repairs.—All repairs and replacements of harnesses.

Item No. 19—Team Shoeing.—This item includes any kind of work done by the blacksmith on your horses, as well as the cost of shoes, nails, etc.

Item No. 20—Team and Truck Drivers.—Chauffeurs for your trucks and autos as well as teamsters belonging to the Traffic Department.

Item No. 21—Traffic Expense.—Traffic expense is shipping clerk's salary and shipping office expenses, superintendent of trucks or teams, and any other general expense of the Traffic Department, for which there is no specific account.

Item No. 22—Gasoline, Oil and Grease.—Self-explanatory.

Item No. 23—Tires.—New tires or repairs to old ones belonging to the traffic equipment less any credits or adjustments on unsatisfactory tires.

Item No. 24—Insurance.—This item represents merely insurance on traffic equipment.

ITEM NO. 25—TAXES

Personal taxes on traffic equipment only.

Item No. 26—Depreciation.—Regular depreciation on traffic equipment only.

Item No. 27—Gross Total Traffic Expense.—This item represents your total cost of all work done by your Traffic Department, but must not be used to arrive at the average cost per thousand on brick until Item No. 28 is taken into consideration.

Item No. 28—Credit for Special Work.—This item credits the Traffic Department for any special work they may do other than handling brick and is generally calculated at so much per hour.

Item No. 29—Hired Equipment.—Any teams or trucks hired must be added at the same figure they cost you and should be figured separately in order that you may make an intelligent comparison between their deliveries and those made by your own equipment.

Item No. 30—Net Cost of Brick Delivered.—If this item is divided by the number of brick delivered, the result will be your average "delivery expense" per thousand.

Item No. 31—Credit for Delivery of Brick; and Item No. 32—Excess Delivery Cost.—I would recommend that you determine from previous experience what the average cost of your deliveries has been per thousand brick and then credit your Traffic Department at the same rate for all the brick they have delivered each month, and this will keep you advised continually whether you are charging your several plants sufficient delivery expense to entirely consume the total cost of your Traffic Department, and then your rate per thousand can be revised as often as is desired.

Now, if you will turn to Exhibit D—PLANT GROSS PROFIT STATEMENT.

Item No. 1—Team and Truck Delivery, Item No. 2—Carload Delivery, Item No. 3—At Yard Delivery, and Item No. 4—Hired Equipment Delivery. These items you will observe, indicate the quantity of the material delivered with each style of equipment, as well as the amount of sales and the average selling price per thousand. It is necessary to show these items all separately in order that you may get

proper information from your report, and you will observe that in Item No. 5—Total Sales—there is nothing included, except the sales of brick, for generally, sales of any other article than your regular product are credits to "expense" and not to regular "sales."

ITEM NO. 6—LOADING COST

This item should include all the cost of loading finished brick, whether by teams, trucks or carloads, and this item must be added to the "total plant cost" to arrive at the complete "f. o. b. plant cost."

Item No. 7—Cartage—(Team or Truck)—This item is calculated by multiplying the quantity of brick handled by the traffic equipment at the rate per thousand which you are using as was outlined in Item No. 31 of Exhibit E.

Item No. 8—Freight—This item will only include freight on brick shipments. Any other freight will be charged to the same expense as the article on which the freight is paid is charged to.

Items No. 9, 10, 11—Inventory Adjustment—In order that you may be able to arrive at the complete cost of sales as

THE JOHN JONES BRICK CO.					
EXPENSE STATEMENT					
Month of November, 1918					
Exhibit "E"					
INDIRECT COSTS					
	Labor	Material	Totals	Aver- ages	Total Aver. Per M.
1. Total net production.....					6,303,528
OVERHEAD EXPENSES					
2. Administrative	\$1,575.88	\$393.97	\$ 1,969.85	.3125	
3. Office	549.67	274.83	824.50	.1308	
4. Legal		126.07	126.07	.0200	
5. Experimental	126.07	189.11	315.18	.0500	
6. Interest		1,400.64	1,400.64	.2222	
7. Bad debts esti- mated		249.91	249.91	.0333	
8. Taxes — (Federal and state).....		1,923.84	1,923.84	.3052	
9. Insurance, general (fire & liability)		694.02	694.02	.1101	
10. Miscellaneous ad- justment		279.88	279.88	.0444	
11. General expense.....		24.58	24.58	.0039	
12. Total overhead ex- pense	\$2,251.62	\$5,556.85	\$ 7,808.47	1.2324	1.2324
TRAFFIC DEPT. EXPENSES					
13. Number brick delivered (6,817,800)					
14. Feed	\$ 49.00	\$2,598.00	\$ 2,647.00		
15. Veterinary		125.00	125.00		
16. Stable expense.....	200.00	68.95	268.95		
17. Wagon and truck repairs	267.89	1,568.82	1,836.71		
18. Harness repairs.....	90.00	108.75	198.75		
19. Team shoeing.....	150.00	205.07	355.07		
20. Team and truck drivers	3,000.00		3,000.00		
21. Traffic expense.....	200.00	18.98	218.98		
22. Gasoline, oil and grease		300.00	300.00		
23. Tires		250.00	250.00		
24. Insurance		125.00	125.00		
25. Taxes		50.00	50.00		
26. Depreciation		1,750.00	1,750.00		
27. Gross total traffic expense	\$3,956.89	\$7,168.57	\$11,125.46		
28. Less credit for special work.....			1,553.00	1.59	
29. Plus hired equip- ment (817,000)....			1,325.46	1.62	
30. Net cost of brick delivery			\$10,897.92	1.60	
31. Credit for delvy of brick @ \$1.50.....			10,226.70		
32. Ex c e s s delivery cost			\$ 671.22	10	

shown in Item No. 12, we must consider first, in Item No. 9, the quantity of brick on hand at the first of the month and then add the production for the current month and deduct the quantity on hand at the end of the month, and the difference will always be the exact cost of sales. You will bear in mind however, that brick are put into inventory each month at their exact cost for that particular month and the brick which have been in stock the longest are

always used first as shipments. Many concerns use the average cost per year for calculating the valuation of their inventory, as well as the cost of their sales, but I maintain this method to be incorrect, inasmuch as the cost for producing the brick may fluctuate as much as 25 per cent. in a period of 60 days, so that an average cost, based upon the year's result will not reflect the true cost at any particular time, for it is generally conceded that costs will never again be as low as they have been in past years.

Of course, then when Item No. 12 is divided by the quantity of brick shipped, it will give you the "average cost" per thousand on your sales, which can be compared with the "average selling price."

ITEM NO. 13—GROSS PROFIT

This item reflects the real net result of each plant and this figure is then carried forward to Exhibit B.

Now, we will turn to Exhibit B, if you please—PROFIT AND LOSS STATEMENT.

Item No. 1 and 2—Gross Profit from Plants—These are merely the net results carried forward from the "plant gross profit statement."

Item No. 3—Miscellaneous Income—This item is made up of such items as are not properly creditable to any particular plant.

Item No. 4—Rentals—This account would only be necessary to concerns who have housing quarters for their employes and the item reflects the net result on your "rental" account after all charges and credits are taken into consideration.

Item No. 5—Machine Shop, Item No. 6—Blacksmith Shop and Item No. 7—Harness Shop—These items will only appear on the statement where a concern is supporting these shops for their own use and charging them with all labor and material furnished them by the company, and giving them credit at market prices for the work they do for the company and of course the items on the reports are simply the net result.

Item No. 8—Total Gross Profit—This is merely a summary of the "total income" and after deducting the "selling expense" from this item you get the "net income."

Item No. 9—Total Sales—This item is merely put on this sheet for the purpose of information in total as these figures are only listed in other places by individual plants.

Item No. 10—Sales Office Expense—This takes in printing, postage and stationery, except advertising, and includes as well, "general supplies" for the sales office.

Item No. 11—Sales Office Salaries, Item No. 12—Salesmen's Expense, Item No. 13—Salesmen's Salaries, and Item No. 14—Commissions—These items are all self-explanatory.

Item No. 15—Discount Allowed—This is merely the regular cash discounts allowed your customers when paying their bills.

ITEM NO. 16—ADVERTISING

This item includes anything in the nature of advertising. Permit me to suggest by the way, in connection with this item, that it is advisable to have your directors make an appropriation at the beginning of the year for "advertising expense" which can then be pro-rated in equal monthly installments, making it possible to maintain a uniform "advertising expense" each month.

Item No. 17—Depreciation, Item No. 18—Insurance and Item No. 19—Taxes—These items of course only apply to these particular expenses as connected with the Sales Department.

Item No. 20—Total Selling Expense—This item represents the total cost for disposing of your production and the average is calculated upon the total quantity of brick sold.

Item No. 21—Excess Delivery Express—This item only

shows up where you make the Traffic Department stand on its own feet, and may show up as a profit instead of an expense, depending altogether on the rate you are using.

Item No. 22—Net Profit for the Month—This is the absolute earning for the month, which adds to the surplus as per the surplus adjustment which you will find below, on this same exhibit.

Item No. 23—Deficit—This item represents the condition at the beginning of the month, which you will note, by the way, is very indicative of the present condition of most brick-makers.

Item No. 24—Adjustment on Taxes, 1917 and Item No. 25—Fire Loss Adjustment, 1917—You will note that while these two adjustments were made during the year, 1918, they both apply to 1918's business and are therefore put in as "adjustments" to the "surplus account" which forces the surplus to its proper lever as of January 1, 1918, and do not affect the earnings for the current year.

Item No. 26—Net Profit for November—This item is merely brought down from above on Exhibit B and tends to bring your surplus up to its proper balance at the close of the month's operation.

ITEM NO. 27—DIVIDENDS

Any dividends are always paid out of "surplus" and must never be charged to your "profit and loss" account, as they in no way affect the earnings of the current year.

Permit me to emphasize this point for the reason that it is a common practice for many bookkeepers to make all such adjustments on "profit and loss" account.

Item No. 28—Surplus—This item now reflects the final net result, indicating the difference between the assets and liabilities as shown in Exhibit A if you are properly in balance, but if this item on the two statements does not agree, your bookkeeper must work overtime.

We are now ready to consider Exhibit A—BALANCE SHEET.

Item No. 1—Land—This item represents the value of your real estate, as well as the valuation you have established to cover your mineral deposits. I suggest the advisability of combining these two items for several reasons, which I will not attempt to outline in this discourse.

Item No. 2—Buildings and Equipment—This item embraces construction and equipment as it was at the first of the year and I suggest that these two items be combined for several reasons, which I will not attempt to outline in this discourse.

Item No. 3—New Construction and Equipment—This item reflects the amount of increase of the investment accounts for the year and is closed out and added to your regular "investment" accounts at the end of each year. No depreciation is calculated upon this account during the year, in order that it will not be necessary to revise your depreciation rates more than once a year. As the charges are put on this account however, the items are so labeled as to make it plain to which asset account they are to be added at the close of the year.

Item No. 4—Miscellaneous Tools and Machinery—This is for equipment of a miscellaneous nature, such as steam-shovels, cranes, drag-lines, locomotives, clay-cars, wheelbarrows, miscellaneous tools, etc., and is shown in a separate account for your convenience when filing your "Personal Property Tax Return."

Item No. 5—Horses, Item No. 6—Wagons and Harness, Item No. 7—Trucks and Autos and Item No. 8—Office Furniture and Fixtures—These are all self-explanatory.

Item No. 9—Property Account—This account will include the value of all your houses and lots which are foreign to the plant property, as well as bunk houses, cottages, etc.,

which may be located on the plant land. In the latter case however, merely the value of the building would be included.

Item No. 10—Deferred Charges—This item is the summary of any prepaid expense accounts, such as "unused insurance premiums" or items of expense of any kind which may have been set up for distribution over a period of months, the total of which has not been consumed.

Item No. 11—Total Fixed Assets and Item No. 12—Cash—These are both self-explanatory.

ITEM NO. 13—LIBERTY BONDS

Any Liberty Bonds should be listed to show the separate issues due to the different rates of interest, as well as the different market values.

Item No. 14—Accounts Receivable, Item No. 15—Accounts Receivable Suspense and Item No. 16—Accounts Receivable Sundry—Accounts Receivable are classed under these three headings, in order to give a more comprehensive view to the person inspecting your report; suspense accounts being such items as you may be doubtful about collecting. Sundry accounts are accounts with officers, directors or employees of the company and are carried in the general-ledger instead of accounts receivable-ledger in order that they may not be subject to the system which is applied to regular accounts-receivable or account collections. All other customers' accounts are considered as regular accounts-receivable and I would suggest that a controlling account be carried in your general-ledger to represent the latter, which at all times will be in balance with the summary of the balances on the individual accounts in the accounts receivable-ledger.

Item No. 17—Notes Receivable and Item No. 18—Mortgages Receivable—These are self-explanatory.

Item No. 19—Inventory Brick—This is the same item as was set forth in the Inventory Adjustment in Exhibit E. A book record of running inventory is maintained, from which can be determined what the inventory should be at the close of each month, and this account may be verified as often as is desired, by taking a physical inventory, and I would suggest that this be done at least semi-annually.

Item No. 20—Inventory of General Supplies—At the beginning of the year, the inventory of all your various supplies is established by means of a physical inventory, at which time a value is placed on your ledger to indicate same and it is presumed that you will maintain approximately a like amount thruout the year, and therefore this account is carried as a permanent asset until same is adjusted by means of a new physical inventory.

Item No. 21—Total Quick Assets—These are assets which

could readily be reduced to cash if need be, without affecting the operation of the plant.

Item No. 22—Notes Payable—This is self-explanatory.

Item No. 23—Accounts Payable—This item is self-explanatory, but I would recommend that a controlling account be carried on the general-ledger, which at all times will be in balance with the summary of the balances on the individual accounts in your "accounts payable" ledger.

Item No. 24—Accrued Accounts—These are items of expense which are continually accruing, but which, at any given time, may not be due for payment and for which there may be no bill in your files, such as taxes, interests, etc.

Item No. 25—Total Quick Liabilities and Item No. 26—Net Quick Assets—You will observe that in the sample form, we are deducting the "total quick liabilities" from the "total quick assets" and showing in Item No. 26 merely the "net quick assets." This item is one your banker is particularly interested in and is the item on which he bases his judgment when you apply for loan on "open account" without security. This item when added to Item No. 11 gives the "net total assets" as shown in Item No. 27.

Item No. 28—Mortgages Payable and Item No. 29—Capital Stock—These are self-explanatory.

Item No. 30—Reserve For Bad Accounts, Item No. 31—Reserve for Depreciation and Item No. 32—Reserve for Special Purposes—For explanation of these items see Item No. 18—Exhibit C, Item No. 7—Exhibit E, and Item No. 10—Exhibit E.

ITEM NO. 33—SURPLUS

This item reflects the net surplus after all adjustments have been made and is the net amount available on December 31st, for Dividends.

There are, of course, a number of forms, books, etc., which should be used in connection with your "system" in order that you may have the proper information at hand with which to make up such a statement as has been outlined, and I wish to say that should you desire a sample set of these forms, I will be glad to mail same to you if you will address me as follows: Harry W. Conway, care of Barkwill-Farr Co., Leader-News Bldg., Cleveland, Ohio.

In conclusion, I would say that we might compare man with brick—for man and brick are both made from the dust of the earth, the only difference being that man is operated by a "system" and when this "system" stops working, man returns to dust. So possibly, Mr. Chairman, if we do not run our brick with a "system," they are liable to return to dust also.



BUILDING OPERATIONS *in* 1918—THEIR COST

ALL PATRIOTIC AMERICANS must feel proud of the war record of many of our industries which rapidly increased production in the face of shortage of labor and fuel and other trying conditions. Such a record was made possible only by the diversion of capital and labor from industries that, in the stress of war, became less essential. The large curtailment in building operations in 1918 as compared with 1917 shows the degree to which the energies of the country were concentrated on the one great object. Tho an increase in Government construction counterbalanced to some extent the decline in private or corporate construction the building trades were nevertheless called upon to make great war sacrifices.

COST IN THE LARGER CITIES

A report of the United States Geological Survey, Department of the Interior, on building operations in 58 of the larger cities in 1918, soon to be issued, shows a very large decrease in the number of building permits issued and in the number of buildings constructed as well as the cost. In these leading 58 cities the number of permits issued or buildings erected in 1918 including additions alterations, and repairs, was 156,588, a decrease of 41,418, or 21 per cent., as compared with 1917. The cost of these operations was \$346,984,480, a decrease of \$225,793,116, or 39 per cent. The cost of building operations in Greater New York (four boroughs) was \$46,833,866. In

Chicago, the second city, it was \$34,792,200; in Detroit, the third city, \$18,226,832; in Cleveland, the fourth city, \$16,385,800; and in Philadelphia, the fifth city, \$15,340,500.

GENERAL DECREASE IN COST

In 48 of the 58 cities there were decreases in the cost of the operations in 1918 as compared with 1917. When it is remembered that higher prices increased the cost of the operations in 1918 as compared with the cost of those in 1917 these decreases assume added significance. The decrease in Greater New York was \$43,387,491, or 49 per cent.; in Chicago, \$14,375,790, or 29 per cent.; in Detroit, \$21,439,968, or 54 per cent.; in Cleveland, \$14,097,950, or 46 per cent.; and in Philadelphia, \$17,709,720, or nearly 54 per cent. The dominant reasons for the decreases were the restriction by the Government of the use of building material to that required for necessary war work and the scarcity and high cost of material and labor. The cities that showed increase in 1918 were Camden, N. J.; Des Moines, Iowa; Jersey City, N. J.; Louisville Ky.; Oakland, Calif.; Portland, Oreg.; Providence, R. I.; St. Paul, Minn.; Seattle, Wash., and Youngstown, Ohio. Some of these cities were centers of Government war work or were close to cantonments, and the repair or the erection of buildings in them was imperatively demanded, but in some the increase in cost is due to increase in prices and does not represent an increase in building operations.

The cost of building operations in these cities in 1918 ranged from \$469,423 in Newton, Mass., to \$46,833,866 in Greater New York, and the average for these 58 cities was \$5,982,491, compared with \$9,875,476 in 1917 and \$15,333,373 in 1916.

NUMBER AND KINDS OF OPERATIONS

The number of operations ranged from 329 in Fort Wayne, Ind., to 12,016 in Seattle, Wash. In Greater New York the number of permits or buildings was 10,647, compared with 20,691, in 1917.

A decline in the erection of new buildings is further indicated by an increased resort to alterations, additions, or repairs as shown in the following table:

Percentage of Cost of Different Classes of Building Operations In 113 Cities

	1917	1918
New Construction	82	72
Alterations, additions, and repairs.....	14	23
Miscellaneous	4	5

Returns received from the 143 cities represented in this table show also a decrease in the average cost of operations from about \$3,000 in 1916 to about \$2,650 in 1917 and \$2,000 in 1918, which, taken in connection with the increase in the cost of labor and supplies, means that most of the building projects undertaken in 1918 were smaller than those in 1917 and 1916.

GOVERNMENT CONSTRUCTION IN 1918

In addition to the building operations reported by cities, vast building operations, principally in army cantonments and camps and navy yards and docks, were carried on by the United States Government in 1917, and especially in 1918. The United States Housing Corporation erected buildings in 28 cities. The Government, thru the office of the Supervising Architect, Treasury Department, erected buildings in 27 cities; the Emergency Fleet Corporation erected, at a number of places, houses for the accommodation of its employes; and the Navy Department conducted building operations in 41 places. Information covering all these operations is not now available, but in

the aggregate they involved a very large expenditure of material and money. In 1918 the United States Housing Corporation and the Treasury and Navy Departments made contracts covering \$49,540,757 for buildings in the cities included in the Geological Survey's report and conducted operations costing \$53,420,220 in other localities.

GOOD PROSPECTS FOR 1919

The outlook for 1919, notwithstanding the continued high cost of labor and materials, appears to be bright, not only because buildings of all kinds are imperatively needed, but because efforts are being made in some of the larger cities to stabilize the cost of labor and materials. If this cost can be fairly well determined for some definite period building operations may be greatly stimulated in 1919. In fact, during the first three months in 1919 they showed a considerable increase over the corresponding period in 1918. The building industry now affords a double opportunity for work that is greatly needed—it may be able to relieve unemployment and at the same time to provide homes, shops, and offices that are in many places sorely needed.

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N. P. B. M. A. Advisory Committee to Meet May 30

Meeting of the advisory committee of the National Paving Brick Manufacturers' Association is announced from Cleveland, Ohio, headquarters. The meeting will be held at Indianapolis, May 30. The committee will comprise members of the various territorial paving brick manufacturers associations, and will include G. W. Thurston, secretary, Western Paving Brick Manufacturers Association; G. H. Reiter, manager, Illinois Paving Brick Manufacturers Association; W. R. Schoonover, manager, Indiana Paving Brick Manufacturers Association; James R. Marker, secretary, Ohio Paving Brick Manufacturers Association; W. C. Perkins, secretary and chief engineer, Eastern Paving Brick Manufacturers Association; J. D. Harvey, the Southern Clay Manufacturing Co.; Will P. Blair, first vice-president, the National Paving Brick Manufacturers Association.

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To Make Brick of Waste Materials

E. H. Orr, president of the newly incorporated Rolmer Co., Seattle, Wash., has plans underway for manufacturing brick with sawdust and other waste materials. According to R. C. Pierson, a trustee of the company, the project under consideration and the results expected are to make from waste vegetable products of all kinds and descriptions a material which, in the face of exhaustive tests, has proved to be adaptable and satisfactory for the making of brick, both building and paving, hollow tile, roofing tile, floor tile, culverts, conduits, etc. This result is attained by reducing the waste material to a pulp and treating it with chemicals combined in a secret formula. It is then molded into the form desired and subjected to pressure, varying in intensity with the product being manufactured. Without burning it is allowed to set for a period of eight hours. This completes the operation.

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Zerrenner Brothers have started work at their brick yard in New London, Wis., employing about twenty men. They expect to work the plant to capacity all summer. Prospects are that they will not be able to meet the demand as building promises to be very brisk this summer.

CLAY PRODUCTS PLANT

to OPERATE in ALASKA

*A Short, Interesting Article on Conditions in Alaska
and Prospects for Industrial Expansion Which
Should Offer Good Opportunities for Brickmaking*

By E. J. Hutmaker

Formerly an Illinois Clay Plant Owner

IS IT POSSIBLE for the average person to think of Alaska in any other terms but ice, snow, hardships, gold, disappointments, heartaches, back breaks, solitudes, loneliness, and a whole list of aches and pains? When you jab your can opener into a can of salmon which was caught and packed only a short while ago in the greatest fish garden the world ever knew, one surely has some reason in hesitating to believe any statement that would carry with it the possibility of pursuits other than mining or fishing.

That manufacture will be able to get a foothold in Alaska is not only possible, but highly probable, and the next few years will bring with it an era of new enterprises which a few years ago would have been counted as simply ridiculous and venturesome beyond good reason.

In making the trip from Seattle to Skagway, Cordova, Seward, or Anchorage via the inside passage, which by the way is the most beautiful as well as the most dangerous passage for ships in the world, one already sees growing evidence of the encroachment of industry, by that warrior of trade and commerce who fells the tree and saws the boards which furnish the homes of the pioneers, and the brave men who show by their courage of investments that they have ample faith in the future of this country and a home driving spirit of facts that cannot be disputed by even the ablest kings of Wall Street.

A BRICK PLANT IN PROSPECT

Pulp mills and paper mills are already in operation—smelters, coke ovens and iron industries are on the way and lo and behold, a brick yard is in evidence with the most flattering prospects of a great future.

It was while throwing up the embankment for the new Government railroad which is being built from Anchorage, situated on the southeastern coast of Alaska, to the interior terminal about 450 miles away at which Uncle Sam's latest and newest town of Nenana is located and where the Tanana River and the rails that stretch across the vast plains, impassable tundras and apparently impossible mountain ranges meet. Uncle Sam has conquered all these things and triumphantly carries civilization miles farther into the very heart of a land that was once inhabited only by the Siwash Indian—the wonderful herds of Moose and Cariboo and here and there now and again a wandering venturesome prospector—from whence he came no one knows, to where he goes no direction shows—and in whose company I was led to one of the most wonderful deposits of clay I ever saw.

I was told about this deposit more than a year before,

and my attention was drawn to the fact that the diggers broke so many shovel handles in trying to dig out the clay to make the fill for the railroad, and other things in connection with this deposit that I concluded there must be something to it.

I prospected over a large area of this land and found it to consist of two distinct strata of clay—the top of which is a yellow rich dirt and extending about five feet deep in places, the lower strata being a beautiful blue gritless clay of unknown depth.

I took samples of the yellow clay, made a full sized brick, which when burned turned out a beautiful light red brick generously sprinkled with rich pepper spots and burned hard as flint. The blue clay burned a very pretty mottled gray brick and the markings are as distinct as bird's-eye maple.

Brick clays have been and are yet very scarce in all Alaska and in my many years of prospecting for the different minerals I have never uncovered any very extensive bed of what one could safely say would do for making brick.

ALASKA BUILDING NOT NOW OF A PERMANENT KIND

Most of the building in interior Alaska has not been of a permanent character owing to the unstable quality of placer mining adventures, but as the country is being and will be developed into a state of cultivation the needs of brick and tiling for general and most necessary purposes will be very apparent.

Countless thousands of acres of fine level land which now are vast tundra marshes and covered with water from ankle to waist deep are an easy undertaking for drainage and when so drained by the use of tile and large ditches will present an easy problem for the tractor and bonanza farming.

The winters of Alaska are very severe, the thermometer sometimes going as low as 73 below zero—and usually standing at 45 to 64, for weeks at a time, but it's a dry cold and we like it. In the summer the thermometer often goes up to 100 and 103—we like this too; with the long, long days around the sun's longest journey, old Sol gets in his best licks for nearly the full twenty-four hours, and this brings the mosquito out in his best and busiest, and the least a man can say is: "It's sure enough hell," but when the fifteenth of August rolls around this pest is gone and then we wouldn't trade with any spot in California or anywhere else.

It's the extreme colds that will demand an unusually hard brick and that's the kind that will be made. The Nenana Clay Products Co. has been organized and will be duly

ready for business as soon as times warrant and when the railroad is built thru to the Tanana River, which may not be more than two years, thus opening up a trade not only for home consumption but making the markets of the coast-wise towns available—the great coal banks of the Matanuska Valley and the mountains of coal only 50 miles back of Nenana, to which the railroad is already built, will insure reasonable fuel and the making of fire brick, lime and cement from clays, shale, and rock taken from the vast mountain deposits will create an industry that is destined to be the nucleus of many others to follow.

BRICK PLANT FIRST MANUFACTURING VENTURE

This will be the first manufacturing venture in interior Alaska situated the farthest north of any brick plant in the world. Lying within the shadow of the Arctic circle, which is scarcely a hundred miles away, and upon the broad and fertile flats of the rich Tanana Valley bounded on two sides by almost impregnable snow covered mountain ranges, thru which our Government is now piercing its way with a trail of steel opening up thousands of opportunities for capital, manufacture, agriculture, and labor, unlocking the richest territory in Uncle Sam's possession, awaiting the tiller of the soil, the user of its riches and the transport of its products.



A Worth-While Fireproof Filling Station

Very few better illustrations of the beauty of clay product construction can be found in Louisville than is found at Third and Breckinridge Streets, where the Standard Oil Co. of Kentucky is operating its largest gasoline filling station which it has in any of the three Falls Cities. This station opens on Third Street and also on Breckinridge, making a straight thru drive coming from either direction.

The building is of very light gray glazed tile, while the roof is of red tile or terra cotta. The floors are of concrete. The building and equipment cost about \$18,000 to put up, while the total cost of land, etc., ran close to \$40,000. The lot is 58x190 feet, while the building takes up the width, and extends back eighty feet. There are six gasoline pumps on the main stand, one just outside of the stand at the rear, and another on the side at the street. The latter is used in filling trucks. All air is also taken



Not the Largest But One of the Most Beautiful Gasoline Filling Stations Operated by the Standard Oil Co.

from the outside in order not to delay filling machines.

Plans for the building were drawn by Ward & Glossop, of Louisville, and the contract was carried out by this concern. There are some very handsome filling stations

in various sections of the country, but there are few that are more fireproof than this one or that can compare with it in looks altho they may be much larger.



Better Highways Movement Starts in Ohio

Plans for cooperating with the movement for the organization of the Federal Highway Council by the Highway Industries Association, were adopted by the Ohio State Automobile Association at a special meeting in Akron Ohio, May 7. The move is an endorsement of the program of the Chamber of Commerce of the United States for better roads.

One of the chief speakers at the gathering was Col. Ralph Cole, of the 332nd infantry, whose experiences during the war included largely the movement of ammunition and foods for the fighting forces. While his speech was mixed with patriotism and common sense, he was definite also on the need for good roads in civilian life as well as in war activities. He cited one instance that showed that if it had not been for a good road the allies would have lost an important battle and an important strategic point. In this particular instance, Col. Cole said, the allies were able to attack at a time when the Germans thought them sixty miles off.

The Ohio State Automobile Association adopted a resolution approving and agreeing to support the activities of the Highway Council in seeking to obtain legislation for a nation wide road improvement.

In taking this stand the organization goes on record for the expenditure of funds only for highways which are of a permanent type, with sufficient drainage, substantial foundation, sufficient width and capacity for traffic which will be reasonably adequate for future needs.



Syracuse Brick Concern Boosts "Build Now"

Leading representatives of the Syracuse (N. Y.) Building Industry are doing all within their power to promote building at the present time. The Cummins Brick & Tile Co., Inc., of Syracuse, with a number of material concerns, is running a series of "Own Your Own Home" advertisements in the Sunday issues of local papers. These ads occupy full page space and advocate "Build Now." The advertisements are attractively set up with display lines, and cuts which appeal to the home-owning instinct of every man and woman and logical reasons are given for building now when the city is two years behind in its building, inasmuch as prices will hold steady for years.

This campaign demonstrates very clearly the progressiveness and initiative of the Cummins Brick & Tile Co., Inc., who with the Merrick Brick Co., are the only brick manufacturers whose names appear on the list of signers of the advertisements.



A Correction—These Molds Were of Wood

In connection with the article "Individuality in Brick Chimney Construction" appearing in the *Brick and Clay Record*, April 22, it was inadvertently stated that the odd shapes, special mitres, radials, joints, etc., of the hand molded brick described were reproduced first by the Hay Walker Co., New York, the organization handling this work, in terra cotta molds. These molds were of wood, similar in method to that employed for terra cotta production.

WANTED — A HOME on a FARM

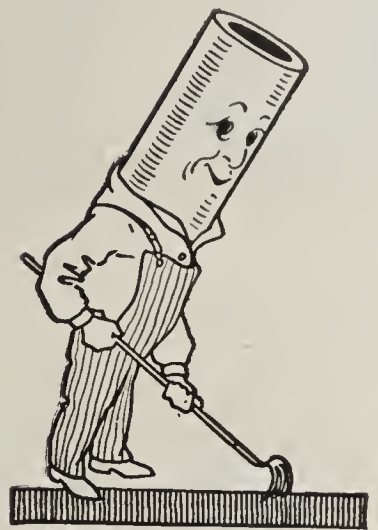
Text by John W. Anderson, Illustrated by American Clay Magazine



Will Work Nights and Sundays, Summer and Winter. Work Hardest When I Am Full, But Am Always Ready for What There Is to Do. Will Agree Never to Leave the Farm Nor Interfere in Any Way with Your Horse Trades. Will Not Keep the Hired Girl Up Late Nights Nor Elope with Your Best Driver on Sundays. Will Not Swear at the Biscuits When the Minister Calls Nor Show the Watermelon Patch to the Boys from Town. Will Not Track Mud on the Kitchen Floor Nor Smoke Cigarettes in the Hay Mow.



Not Afraid of Rain Nor Hot, Dry Weather. Hold World's Record for Carrying Water. Have Been Especially Trained and Will Guarantee That with My Help Your Crops Will Increase Twenty to Fifty Per Cent. or More in Quantity and Improve in Quality.



Will Prepare Your Soil for Cultivation Earlier in the Spring and Make It Warmer by Several Degrees. Will Prevent Soil Baking and Forming in Clods. Will Make Your Subsoil One Vast Laboratory for the Production of Food for Your Growing Crops.



Will Insure Your Crops in Both Wet and Dry Seasons Without Extra Charge. Will Prevent the Soluble and Most Fertile Elements of Your Soil From Being Carried Off to Your Neighbor's Land by Surface Washing.



Will Feed Your Live Stock, Pay Your Grocery Bills, Clothe Your Family, Send Your Children to School, Pay Your Taxes and Burn Your Mortgage.



Am Straight as a String and Sound as a Dollar. Strongest and Cleanest of My Race, Will Do as I Agree. Reference, Your Dealer, Any Progressive Farmer or Land Owner, Anywhere.



Will Contract for One Hundred Years' Service or More. Have Thirty Years' Experience and a Clean Record.

I
AM
A
TILE



All That I Ask Is an Early and Proper Burial, You to Deduct Funeral Expenses From Increase in First Year's Crop.

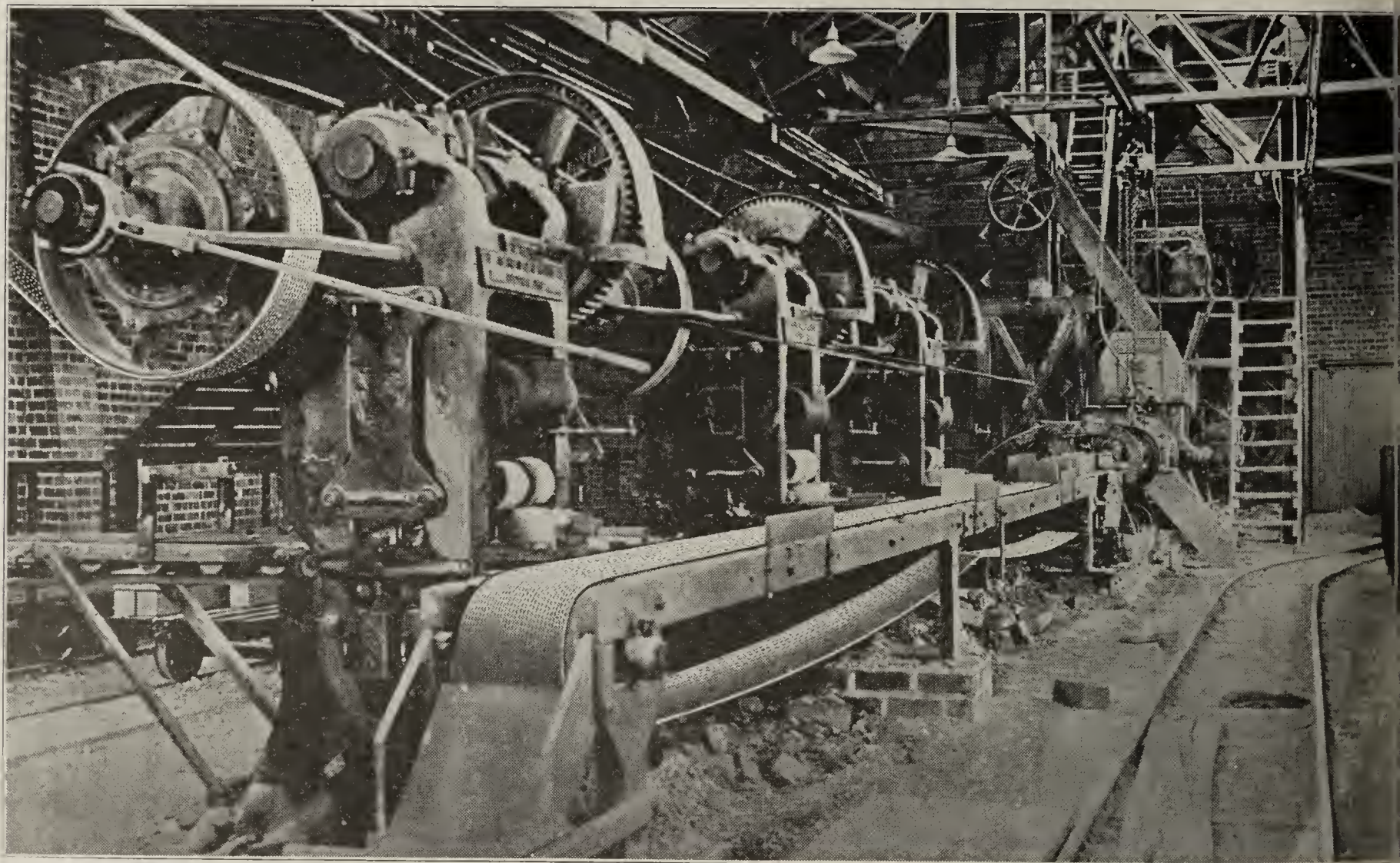
REXALL

DOUBLE -

—Another Reason for

THERE is another reason for Double-Service of *REXALL* double-stitched BELTS. It explains in part why they hold their commanding records for tonnage and economy in elevating and conveying abrasive materials under out-door conditions—and it is the process of stretching. Most fabric belts are subjected to a quick stretching process that saves time in manufacturing but robs the fibre of its life and strength.

With *REXALL* double-stitched BELTS this process takes from three weeks to a month according to the size of the belt. The fabric is subjected to a gradual stretch—sometimes for weeks at a time. We never allow the elastic limit to be so nearly reached that weakening strain can result.



BELTS

DOUBLE-STITCHED

REXALL's Double Service

*There are no Short Cuts in Manufacturing
REXALL double-stitched conveyor BELTS*

From the original specifications used in the weaving of the fabric through every step in the building of the belts the idea is to make the best belt that science can produce. We use the heaviest fabric practicable— $37\frac{1}{2}$ oz. fabric, triple tested for evenness of weave, strength and flexibility. We double-stitch our belts in closer rows and shorter stitches; ply separation is prevented.

REXALL belts are impregnated at high temperature with a specially prepared gum which impregnates and insulates every fibre of the fabric. REXALL belts resist cold, heat, moisture, internal friction and external wear over long periods, and are free of weather troubles.

The extensive use of REXALL double-stitched conveyor BELTS in the Brick and Clay industry has proved their ability to stand the severe service demanded by this work. No other belting we know of has produced greater tonnage records at lower cost per ton. We would be glad to give facts and figures, backed by our experience upon request.

IMPERIAL BELTING COMPANY

Main Offices:

Lincoln & Kedzie Streets

CHICAGO

BRANCH OFFICES:

120 Liberty Street
New York, N. Y.

512 Hippodrome Bldg.
Cleveland, Ohio

112 Market Street
Pittsburgh, Pa.

205-209 Kresge Bldg.
Detroit, Michigan

924 Kearns Bldg.
Salt Lake City, Utah

SUGGESTIONS *on* CLAY LAND INVESTIGATIONS

Lack of Knowledge Among Clay Producers is Taken Advantage Of By "Fake" Engineers—The Investigator Often Makes His Examination and Takes a "Barrel of Clay" All in One Day—The Cost of This is But Slightly Less Than That of a Thoro Investigation

By Robert W. Jones

WHEN THE OWNER, or prospective owner, of a clay property expends money for information, in regard to this property, he is usually hoping to get his money back. Perhaps he intends to spend a considerable sum towards a commercial enterprise and he wishes to get back the necessary investment with a good rate of interest. An engineer is consulted. This engineer has knowledge concerning the property, or has the means of securing the knowledge, which is not easily available to the owner. The engineer should see that the owner receives a full return for his fee. The owner, however, should have some knowledge as to what information should be secured and in the final report should be fully informed as to how this information was secured.

There are two classes of engineers directly interested in the examination of a clay property—the geological engineer and the ceramic engineer. These two branches of engineering overlap as regards the character of work. It is the province of the geological engineer to investigate conditions as they appear in nature and to furnish the ceramic engineer with information and material necessary to determine methods of manufacture. The geological engineer also reports on conditions which will govern future work as regards the life of the property, methods of transportation, disposal of future waste, etc.

THE PRELIMINARY A "STOP LOSS ORDER"

The examination of a clay property is naturally divided into two sections—the preliminary and the final. The preliminary is a "stop loss order" for the client. It is not necessary or wise for the engineer to carry on an examination when all the facts determine that there will be absolutely no return to the owner for the necessary expenditure of money.

The geological engineer will naturally be acquainted with the literature on the geology of the region in which the property is situated. A Government topographic map may be available. It is on these two that the preliminary examination will mainly be based. A study of the regional and local geology combined with the topographic map will give many facts on which to base both the preliminary and final examination.

In many cases, especially where the client has only a vague idea as to where he would like to locate and no property is positively located the geological engineer may be able to lead his client away from a future loss of time and money, giving him such information that he can become better posted on general conditions. If a property has been positively located it is the duty of the engineer to present to

the client, in the form of a preliminary examination, all facts of value, concerning the property and region, that have been determined and published by other geologists and engineers. With this he should give the results of his own preliminary examination based on either the property map or his own preliminary map. General samples should be taken by either borings, pits, trenches or other openings, and turned over to the ceramic engineer for his preliminary examination. The preliminary field examination should not only cover the immediate property but the adjoining properties, in a general way, and all productive clay deposits of the region. From this investigation he should present the general facts of the region as they are represented on this particular property. I have found that the examination of the adjacent region is very valuable in deciding property values and that without this knowledge it is almost impossible to exactly determine future conditions. Published information, which is used in this preliminary examination and report, should be checked. It is best to even check the topographic map for large errors, for it should be remembered that the Government topographic survey is mainly a free-hand sketch drawn around a network of exact determined points. With a scale of one inch to the mile even a fairly respectable size property makes a small showing. The combined reports of the geological and ceramic engineers will determine if it is advisable to continue with a detailed investigation.

A DETAILED TOPOGRAPHIC MAP A SAVING

After the geological engineer has finished his preliminary examination and has made a study of general conditions of the surrounding region he has in his mind an idea as to what would be the ideal conditions. He is on the lookout for indications which show the presence or probable presence of injurious material such as sand, gravel, lime-concretions, water, soluble salts, etc. If he is to make a true report he will have to show these conditions to his client so that they will be perfectly understood. There is only one correct way to show these conditions and that is by means of a detailed topographic map and properly arranged sections. Under any condition it is a great saving in time and money to have such a map. The cost of a topographic map of any clay property is or should be a minor consideration in the examination of such a property. Two such maps should be constructed, with five-foot contours, a small scale entire property map and a detail working map on a scale of fifty feet to the inch. All points where borings or excavations are to be made are located with stakes and shown on the property map as proposed points of examination. The location of these holes will be determined by topography, by

drainage, by the property lines and by the results of the examination as it is carried forward. When the topography of the property is simple with few elevations or depressions it is best to have the holes laid out along lines intersecting at right angles and spaced not over one hundred feet apart. Alternate locations should be examined first. This will determine if it is necessary to examine the deposit at all proposed points.

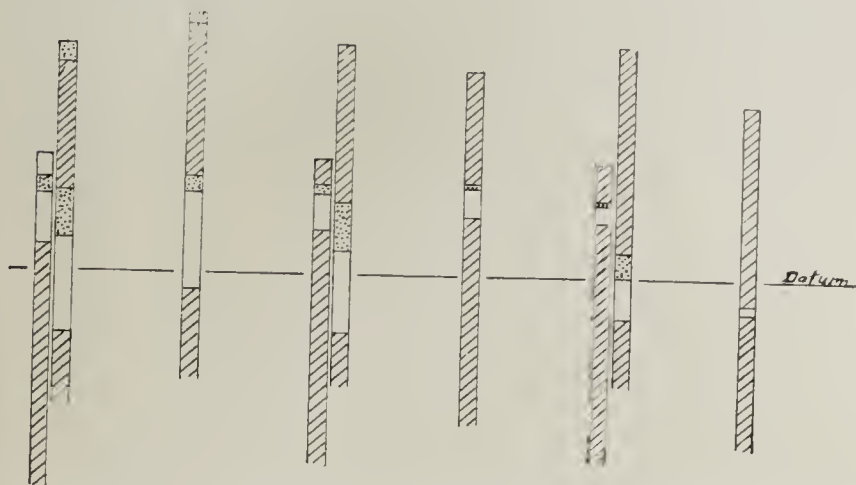
When the deposit is known to extend to a considerable depth it is better to limit the depth of borings to perhaps not over fifty feet from the surface. For convenience and also to properly show conditions, the detail working map, on the scale of fifty feet to the inch, should be prepared in sections, each section considered as a separate property, the holes laid out slightly off the determined locations, so as to be vertically projected in their proper relationship with each other. The accompanying sketch illustrates such a condition.

CALCULATING THE LIFE OF THE PROPERTY

With the property properly bored and all measurements taken it is no difficult matter to calculate the cubic yards available and from this the life of the property. The results of the borings will determine exactly what materials are to be used and after this is located it is a simple matter to take the proper samples for the working tests either thru shafts, adits or open cuts. With a proper series of sections it would not be a difficult proposition to open a property with the greatest return of material with the least handling of waste.

The vertical sections should be shown on a scale of not less than five feet to the inch and should give in detail every change in character or condition from the surface downward. I have found that a small sample taken every few feet and washed, to determine the heavy materials, will give many interesting facts if recorded on the vertical sections. It will be plainly seen that such a set of sections accompanied by the topographic map and a proper index will give the complete underground conditions. If the material is of regular composition the samples should be taken to represent each five foot interval. If the material is at all irregular each bed should be sampled separately. Proper supervision should be had over the borings, as they are taken, to see that all of the material is retained, that it is kept clean and that proper measurements are taken. Of course, the results of such an examination only indicate positive material as far as the examination goes, beyond that comes probable material and then possible material. After the property is thoroly sampled the ceramic engineer, re-

matter to sink thru clay if the proper precautions are taken to protect the laborer. It is not necessary to excavate to a great extent horizontally but as the shaft is taken down a very complete sample is taken. Such a sample should, if the material is uniform, be taken in a continuous section down one side of the shaft so as to secure



A Method of Showing the Data Obtained From Borings So as to Be Able to Visualize the True Extent of the Clay Property.

a proper average. Deep shaft work should only be undertaken by persons thoroly familiar with proper methods of timbering.

I know that many clay workers will say that it is not necessary to go into such detail. However, the list of plants, small and large, which are now lying idle, the result of hasty examinations, is impressive. I have in mind one particular plant in which the lost investment would pay for a thoro examination of every operating plant in any clay working region of the United States.



"Barney" Figgins Back Again

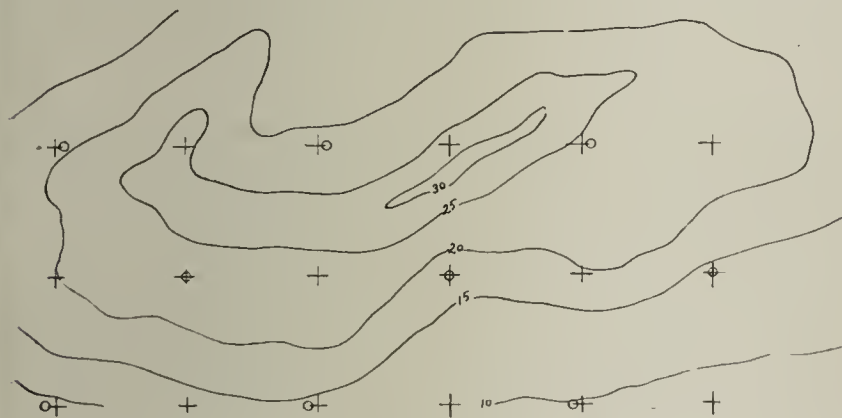
After nearly two years of active sea duty in the capacity of ensign and lieutenant (j. g.) B. W. Figgins has been detailed to inactive duty and has now resumed his former connection with the Hydraulic-Press Brick Co., as Baltimore representative. Mr. Figgins, it will be remembered, was one of the two face brick salesmen to receive honorable mention in *Brick and Clay Record's* sales ethics contest conducted during the first half of 1917 on the subject of "Knocking." Mr. Figgins' paper, the title of which was "Talk Service," was published on page 483 of the September 11, 1917, issue of *Brick and Clay Record*.



A Volume of Interest to Clay Men

A book that covers every phase of rock excavation; one that is a complete manual of the best modern practice in drilling and handling rock of all kinds under all conditions, illustrating latest machines and methods and including costs of actual work done, has just been published. Included in its text are chapters on methods and cost of hand drilling, cost of machine drilling, loading and transporting material, explosives, and many other subjects that should appeal to the clay producer.

The book is entitled "Handbook of Rock Excavation, Methods and Cost," and was prepared by H. P. Gillette, a consulting engineer and editor of "Engineering and Contracting." It is a flexible book of pocket size, containing 824 pages and 184 illustrations. This volume has been added to the list of books in *Brick and Clay Record's* book department and can be obtained for \$5.00.



Showing How to Make a Simple Topographic Map with Location of Bore Holes Indicated.

porting on the laboratory tests of the borings, indicates the beds most suitable for the proposed industry.

Without doubt the best method of securing samples for working tests is by means of shafts. It is no difficult

Cleveland Building Progress Waits Upon Labor

Altho two weeks have passed since agreements between building trades labor organizations and building material and contracting interests expired, at the moment both sides are as far apart as ever in the matter of reaching a settlement whereby building operations may proceed for the remainder of this building season. Such is the situation in Cleveland, Ohio, and until the situation does clear a normal resumption of building activity is hardly likely. This is the opinion of leading material interests, especially in the brick and other clay products end of the industry as the first fortnight of the controversy ends.

Cleveland deficit in the figures recently received from Washington on the sub-normal conditions in building operations, is significant out of the total deficiency in the nation of one and one-half billions of dollars. Of this amount Cleveland's loss, according to E. W. Cunningham, building commissioner, is close to \$45,000,000. The state's deficiency is \$235,000,000.

What the immediate future holds out, however, if satisfactory labor adjustment can be made, leading material men point out, is indicated by the improvement in the last few weeks. In the last week there has been an increase in building permits aggregating 50 per cent., over the previous week. Permits for the first four months of 1919 show an increase of \$815,270 over the same period in 1918.

This is already reflected in brick and allied circles by the increased demand, and consequently increased output. For example, at the Barkwill-Farr Co., according to J. M. Beville, promotion manager, this company is running upon a 50 per cent. basis, compared to a 10 per cent. basis at the beginning of the year. At the present rate it is the belief of officials of this company that all plants will be running on at least a 75 per cent. basis, and perhaps a 100 per cent. basis, by fall.

"The one big thing that will decide whether building is to be carried on is labor," says Mr. Beville. "In the last few weeks we have had our attention called to the fact that many large projects, involving in some instances 100 and 200 houses each, will be started by investment and contracting interests as soon as the labor situation clears. We also are getting inquiries from out of town interests who plan to erect large apartment houses if the labor problems shape up in this district. Chief reason why building has been comparatively slow up to the present is that people fear to meet additional costs if labor demands must be met."

At the R. L. Queisser Co. scarcity of material is seen if sudden spurt to building operations develops. "While the building program is unsettled at the moment, it is more optimistic in the last few weeks than it has been for the last two years," says R. L. Queisser. "It is our belief that the next few weeks will see a scarcity of material in this district. There is a greater call for hollow tile and similar material already."

Meanwhile demands of eleven building trades unions are still up for consideration by employing contractors and allied interests. Following a joint meeting, at which A. L. Faulkner, federal conciliation commissioner was present, it has been decided for each trade to take up its demands with its own employing faction. If agreements cannot then be reached, according to Mr. Faulkner, the conciliation board will take up the questions, as provided for in the general agreement between labor and employers, which still has two years to run. Talk of a general strike is discounted here, notwithstanding that fixture

workers of the electrical union are not working. The employers say they struck, and the men say they were locked out.

At the meeting here of the National Builders Exchanges, a new body, whose object will be to avoid just such disputes as are now pending in Cleveland, has been formed. It is known as the National Building Trades Employers Association. Members of a committee appointed to perfect organization are: Chairman, C. J. Kelly, New York City; W. F. Hennessy, Cleveland; D. T. Riffle, Pittsburgh; C. C. Pierson, Indianapolis; J. D. Stoddard, Detroit; Charles F. Walsh, Cincinnati; E. M. Craig, Chicago. They represent local building trades employers organizations. One feature that will be taken up by the new body will be that of settling disputes between labor organizations relative to the different kinds of work each branch of labor is expected to do. Decision on such disputes will be final, and the force of the league will be brought to bear to enforce all such awards made.

Altho nothing definite looking toward starting action has come out of it, serious consideration is being given by finance, business and the various branches of the building industry here, to the suggestion of Paul L. Feiss, president of the Cleveland Chamber of Commerce before the Electrical League, advocating a federal credit system, similar to the rural credit system. According to the plan of Mr. Feiss, this would permit working men and others to obtain loans at fair rate of interest and long time payments, with which they could build their homes. It is his belief that more home owners would mean less dependency in old age, and create for earlier independence of the working people.

* * *

Maintenance Data on Test Roads

Very interesting data on the maintenance of twenty-eight sections of test road laid by the city of Philadelphia is contained in a report appearing on pages 670 and 671 of the April 3, 1919, issue of "Engineering News-Record." Accurate records kept by the city show the relative cost for various types of pavements. Five general types of construction in the twenty-eight sections were used, each varying in details of construction and materials. The types were those ordinarily used for suburban highways. During the six years that have elapsed, considerable amounts of money have been expended in repair. It is now possible to get a preliminary idea as to the value of the various types. To make the data available to the public, the city authorities have prepared a detailed report each year of the condition of the road and the traffic on it. The tabulations given in "Engineering News-Record" were compiled from a forthcoming report.

Vitrified brick was used on seven sections. A four-inch concrete base was used with sand-cushion and grouted-brick top. Very little maintenance was given to these sections during the six years. Only two sections received any repairs at all—one with one cent and the other with two cent per square yard per year. There were longitudinal and transverse cracks in many of the sections, and the repairs consisted of filling these with Tarvia and torpedo gravel.

* * *

The Charleston (Miss.) Brick & Tile Co., has been formed with a capital stock of \$10,000.

* * *

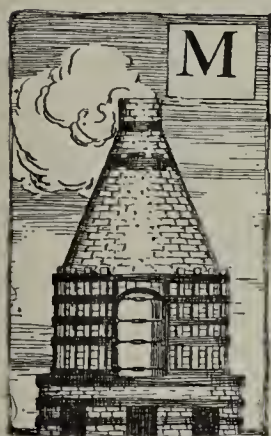
John Price Limited, Toronto, Ont., have taken out a permit for the erection of a brick kiln at 396 Greenwood Ave., to cost \$9,000.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

NEW YORK STATE SECTION A. C. S. VISITS INTERESTING PLANTS



MEMBERS OF THE New York State Section of the American Ceramic Society held their annual convention at the Onondaga Hotel, Syracuse, N. Y., Friday and Saturday, May 9 and 10, listened to a number of technical papers by experts, elected officers, visited local plants and concluded the meeting with a banquet at which a number of local members of the Brick Makers' Association of Western New York were guests.

S. C. Linbarger, of the Carborundum Co. of Niagara Falls, N. Y., was elected president of the ceramic society for the ensuing year; J. B. Shaw of Alfred University, Alfred, N. Y., was elected secretary and treasurer, and L. E. Barringer, of the General Electric Co. of Schenectady, N. Y., was chosen councilor.

The convention opened with a business meeting of the association Friday morning. In the afternoon at the meeting in the Rathskeller of the hotel a number of lectures illustrated with stereopticon views were delivered. A banquet was held in the evening and Saturday the delegates visited a number of local factories, including the Solvay Process Co. and the Onondaga Pottery. Secretary Shaw declared that this part of the convention was one of the most interesting features of the whole meeting.

TERM "FIRING" ADOPTED

A discussion on the proper term for heat treatment of ceramic products came up at the Friday afternoon session. The interchangeable use of "burning" and "firing" was called to the attention of the members by L. E. Barringer, as an opening to his paper on "The Mechanical Phases of Ceramic Engineering." "Pyrochemical behavior," the term recently suggested by the national committee on standards, was thrown out as being too technical and the section went on record with a resolution to the standards committee as favoring the use of "firing." The members of the section agreed that efforts should be made to keep the vernacular of the trade within the scope of the man in the yard, and that lengthy technical terms should therefore be avoided. The resolution of the standards committee therefore not only suggested the use of "firing" but requested that "pyrochemical behavior" be thrown out.

Mr. Barringer, who has done a great deal of the experimental work for the General Electric Co., spoke on the **attention which the ceramic engineer should give to the purely mechanical phases of his work.** Most of the time of the ceramic man is put in on bodies and glazes, Mr. Barringer states, and not enough careful thought and study put on the firing and drying methods and practices. Both fuel loss and the waste of breakage and poor results can be overcome if these two important parts of the work are carefully watched.

Poor results in drying usually come from heating the ware too quickly so that the thick portions do not arrive at the same temperature as the thinner parts, and the result is a twist, a strain, a warp or, a break, with the resulting loss. This is also blamed on the too quick driving off of the moisture, and the drying process is therefore worthy of consideration and study, Mr. Barringer stated.

The two essentials for correct drying are heat and humidity, and the correct control of these two factors will result in perfect drying conditions, Mr. Barringer believes. He therefore went into detail on the theories and practices behind the control.

THE MAINTENANCE OF HIGH HUMIDITY

Vapor pressure and its laws of vapor tension were gone into at great length by Mr. Barringer. The fact that there is always the effort to establish an equilibrium between the moisture in solution and the moisture in vapor form was brought to the attention of his audience, for on this law he based his theories and suggestions for controlling humidity. By keeping humidity high until the stock could be brought to a uniform temperature thruout all its parts the danger of strain and cracking would be to a great measure eliminated.

This maintaining of high humidity, or vapor tension, is to be accomplished by two means, the use of steam jets, and the application of the water atomizer. The first Mr. Barringer called impractical because altho the steam jets did keep the vapor in the air, and add to the humidity, they also had the tendency to raise the temperature, while an even heat is what is wanted. Water atomizers are therefore recommended, because they can add to the humidity and yet not materially affect the heat.

Control of the vapor is to be brought about by the development of the silk fiber instrument which is very susceptible to moisture. The action of the moisture will either expand or contract these fibers in direct proportion to the humidity, and the slight movement thus obtained will be transmitted to the valves, so that the control of the vapor will become almost entirely automatic.

Use of continuous dryers, where production merits the expenditure necessary, is recommended by Mr. Barringer, as they are easier to control than the periodic ones.

Continuous kilns for successful firing of ceramic products is also recommended by Mr. Barringer, because thru the use of these, the great losses due to heating the walls, and escaping gases in the best up-draft or down-draft kilns

will be done away with. Under the prevalent system of periodic kilns less than five per cent. of the energy of the coal burned is applied to the products themselves, and the rest is either wasted or consumed in heating the kiln itself.

The kiln as suggested by Mr. Barringer is a long tunnel, with the point of greatest heat at the center. This allows the green stock to enter the kiln at a low temperature, and moving on slow motion cars, it will approach the greatest temperature as it nears the middle. Having passed this, and been thoroly fired, it now moves slowly to the region of low heat at the far end, and thus cools slowly, doing away with any chances of cracking during the cooling.

Use of oil for fuel in these kilns is also recommended by Mr. Barringer. This fuel gives a steadier heat because the flame is continuous, and there is no checking of the fires by necessary stoking as in the case with coal fired kilns. Use of oil also cuts down labor costs by eliminating the hauling of ashes, the moving of coal, and does away with grate upkeep, that is a large item in coal fed furnaces. Experiments with these continuous, oil fired kilns at the General Electric Co.'s plant have been very successful, Mr. Barringer stated.

During the discussion that followed Prof. C. F. Binns recommended that the tunnel be lengthened and the continuous dryer made a composite part of the plant in those factories where the nature of the product would permit this. Use of this system, he suggested, would make more than one handling of the product unnecessary, and make the drying and firing practically one operation.

ABRASIVE WHEELS MANUFACTURE

Manufacture of abrasive wheels was shown by the use of slides which S. C. Linbarger, of the Carborundum Co., Niagara Falls, had brought with him for the lecture. He showed the electric furnace in which the crystals of carborundum are produced by the passing of electrical energy thru the prepared mass. Grinding machines, the washing rooms where the crystals are cleaned of foreign materials, the presses where the wheels first are shaped, and one of the kilns in which the wheels are fired were shown on the screen.

A brief history of abrasives since their first use by the semi-savage people for sharpening their tools until the production of the high speed abrasive wheels of the present day, which make quantity production of metal parts possible, formed the introduction of Mr. Linbarger's paper. The problems which have led to different steps in the development of the various types of wheels, the ways in which matrix types have been perfected, and grades of abrasives developed made a very interesting part of the paper.

There are, in general, three types of wheels, Mr. Linbarger told the section, the vitrified, the matrix which is of clay composition, the silicated, and the elastic, whose matrix is of the shellac or rubber type.

Carrying his hearers thru the production of the wheels, Mr. Linbarger described the making of the crystals and the sifting of them thru screens. He showed the washing, where dirt is removed by percolation of water thru the mass of crystals. He described the mixture of the various matrices, and the pressing into shape of the wheels under hydraulic pressure, and the final firing in the huge kilns. Wheels varying in size from the tiny ones used by dentists to those three feet in diameter with a two-foot face, used for clearing castings, were described.

Elastic wheels are used mostly in the thin types where the clay matrix would not hold the wheel against the strains it would meet in operation. Fine wheels, a fraction of an inch thick always have the elastic matrix. Mr. Linbarger stated.

"Without the abrasive wheels, the popular motor car, made reasonable by quantity production, would be beyond the reach of the average individual, while the tractors could be counted by the dozens instead of by the thousands, as they are now," Mr. Linbarger said. "Abrasive wheels, by making production of huge quantities of metal parts possible, helped win the recent war with Germany, and are now ready to go to work on the reconstruction job."

THE PRODUCTION OF PORCELAIN

"The Porcelain Situation in the United States" was discussed by Prof. C. F. Binns, of Alfred University. That there was a great opening here for the porcelain industry, he had no doubt, but that it could be produced for a profit at first he feared impossible.

The porcelains of Europe, which have been the envy of the world, were not produced first for profit, but for the art, and the commercial production came afterward, after the problems had been solved. None of the problems of American production have been worked out as yet, and the first work would therefore be an experiment. "If we could find a public spirited man, who would let us use \$500,000, we could make porcelain, and perhaps in three or four years make it at a profit, but the first two years certainly would be all experiment," Professor Binns stated.

It is the professor's opinion that the average American ball mill for grinding the mix for porcelain is run too fast. The mix should be of such a consistency that it will stick to the balls, otherwise no grinding takes place, and the balls should travel up nearly to the top of the mill, and then tumble down slowly to do the best work. The average mill moves too rapidly so that the balls are thrown by the centrifugal force rather than allowed to fall down, with the result that they do not grind as thoroly as they should.

One of the problems of making porcelain is the huge equipment required for holding the green product during firing. In making china the plates can be sanded and kilned that way, but because of the gloss of porcelain, and the ruinous effect which the sand would have on this finish, the plates of porcelain must be held separately. The most economical way of doing this is by "pinning" in which the plates are suspended by three pins set in the frames for holding the plates. Another method is that in which each plate is held on a separate tray, so arranged that piles of these can be stored in the kiln. This, however, is almost prohibitive because of the cost of the equipment.

The grinding of the mix was another problem Professor Binns brought before the society. Whether the mix should be ground as a whole, or the various constituents ground separately and to different degrees of fineness, was left as a question for discussion.

"Grinding of dirt fine enough will destroy its effect on color," Professor Binns told his audience. He related an incident in which he had found some of the kaolins which had been thrown out because of the brownish tints which it was thought would destroy the tint of the finished ware. He ground these exceedingly fine, and then made a piece of porcelain with them. At completion he found that it was hard to tell which was the piece with the selected materials, and which was not.

Professor Binn's talk was accompanied by slides, illustrating some of the points he wished to make emphatic. One slide, he said, caused him surprise, because he had imagined the ideal plant, with four grinders each emptying into the mixer every four hours, and so arranged that one would empty every hour. He had described this to his classes, and had hoped to see it in operation some day, and then when he came to select some slides one day he found his idea had been the idea of someone else, and the picture of

the ideal plant was shown on the screen.

Part of Professor Binns' talk was on the technical differences between the foreign and domestic kaolins, and on the differences which occurred in kaolins apparently chemically the same, yet from different localities.

Other papers were: "Fuel Regulation in Ceramic Plants," by C. A. Bole, of Alfred, N. Y., and "How to Make Enamels Durable," by Prof. J. W. Shaw, of Alfred University.

ROSTER OF THE SECTION MEETING

Members of the section present were Mark I. Haley, of Syracuse; J. B. Shaw, of Alfred; S. C. Linbarger, of Niagara Falls; O. Chorman, of Rochester; S. F. Walton, of Niagara Falls; C. F. Gieger, of Niagara Falls; Charles F. Binns and G. A. Bole, of Alfred; L. E. Barringer, of Schenectady; H. Schmidt, of New York City; George Haff, of Solvay; M. E. Gregory, of Corning; B. E. Saulsbury, of Syracuse, and W. A. Titsworth, of Alfred.



Impressive Clay Products Advertising Copy

That the advertising of clay products can be put into interesting as well as very attractive copy is illustrated by the ad copy of the General Ceramics Co., which oc-

THE POTTER AND THE POT
Chapter One

Egypt 3000 B.C.

In the days of Egypt's glory 3000 years B.C. the potter's art was a noble calling presided over by the great Egyptian god ATUM—the direct spirit of the Universe. According to legend it was he who first worked in clay—fashioning Man, his greatest creation.

In later years the potter was a man of no mean influence, whose work carried weight in Council and whose advice was eagerly sought after.

The pottery of this dim age distinguished itself by its nobility and simplicity of line and adornment.

THE DEMANDS OF A NATION

Europe had plunged into war and this Nation of ours took the leadership, almost over night, in Chemical Manufacture.

This great Chemical Industry demanded extensive establishments to supply its wants. Realizing this the General Ceramics Company quadrupled its output, becoming the largest manufacturer of Chemical Stoneware in this Country.

Their watchword and slogan is "Chemical Stoneware BETTER than European makes, BETTER than any other make."

The war orders of a Nation began to pour in and the end of 1914 found the General Ceramics Company engaged in turning out ACID-PROOF Chemical Stoneware in Quality and Quantity, eclipsing anything heretofore attempted in this or any other country.

Anything in Chemical Stoneware—In Any Quantity

*"In under cover of departing day
Stunk hunger-stricken Rimazan away
Dure more within the potter's hour alone
I stood, surrounded by the shapes of clay"
—Omar Khayyam*

GENERAL CERAMICS CO. 50 CHURCH ST. • NEW YORK
112 W. ADAMS ST. • CHICAGO.

"EQUIPPED TO SUPPLY A PLANT OR A NATION"

Attractive Advertising Copy for Clay Products Which Occupied a Full Page in a Prominent Business Paper Recently.

cupied a full page in the May 1, 1919 issue of "Chemical and Metallurgical Engineering." Egyptian designs and pottery forms are weaved artistically into the copy which makes a strong appeal to the reader to stop and linger on the page.

A. C. S. Domestic Pottery Branch Organizing

The domestic pottery branch of the American Ceramic Society, which was given a start at the annual meeting of the parent Society in Pittsburgh last February, will soon be organized. A few weeks ago a general meeting of the pottery branch was held in the rooms of the Potters' Club in East Liverpool, Ohio, at which time folks attended from Pittsburgh, Pa., Beaver Falls, Pa., East Palestine, Salem, Sebring, Carrollton, Minerva, Steubenville, Ohio, and Wheeling, W. Va. An interesting discussion was led by W. Edward Wells, secretary of the Homer Laughlin China Co., of East Liverpool, Ohio, and Newell, W. Va. An organization meeting of this branch of the industry is expected to be held at an early date, at which time Charles Sebring, of the Sebring (Ohio) Pottery Co., will be probably elected president and Charles Foster Goodwin, of East Liverpool, Ohio, will be selected as secretary. These gentlemen are now filling similar temporary offices.



Porcelain Exports

Exports of Japanese porcelain in this country fell off in value about five per cent. from 1913 to 1918, but exports to Australia and India increased. This change in distribution was due principally to lack of bottoms and other ware conditions. It is problematical whether pre-war conditions will be resumed. There is a general tendency for Britishers to prefer British products, and in certain sections of this country European products are preferred to Japanese. However, some types of Japanese porcelain have become popular in this country and it seems probable that the imports of Japanese ware will increase again.



Domestic Pottery Business Continues Active

Activity in the domestic pottery business continues along the most favorable lines. During the last six weeks production has increased, and an improvement has also been quite noticeable in both rail and river shipping. Buyers have been active in the market, some of the larger jobbing interests having sent their representatives into the market as much as three times since January. Imported raw materials continue to soar, and this fact shows that manufacturing costs are not likely to reach lower levels for many months to come.

With the return of so many soldiers and sailors to the pottery districts, the manufacturers are enabled to increase capacity. The general demand for dinnerware is soaring instead of showing any inclination to decline. And the fact that the better grades of ware are selling best is the most interesting phase of the present situation. Labor costs show no change, nor are they likely to at any time during the next year. Delegates to the annual convention of the National Brotherhood of Operative Potters, which will be held in Atlantic City in July are now being elected. It is generally understood that the convention will not ask for an increased wage, but rather that the existing wage scales be continued for another two years.

Manufacturers are now paying more for English clays than ever before. Altho contracts were signed last fall for 1919 deliveries, the English miners and shippers are unable to guarantee deliveries and with ocean rates having a steady upward tendency, the delivered cost of these clays cannot be properly determined until invoices are received. The situation in this particular regard is unlike the manufacturers

have heretofore experienced. However, English clays are being delivered but not with the speed that some of the users would like to see.



Within the last month two conferences have been held between the jobbing interests of the country and pottery manufacturers. The first of these meetings was held in Chicago and the last discussion was in Cleveland. The jobbers have been seeking information as to the future of the industry with reference to production and what may be depended upon. Last year, on account of war conditions, deliveries were slow on the general stock lines, all Federal business no matter whether it came thru jobbing channels or the Government direct taking first place on order files. Both sides realized that the general buyer suffered, but the condition was one that could not be helped. Hence the desire of the jobbers to get acquainted with present and possible future manufacturing conditions.



The pottery interests at Trenton, N. J., have been active in the support of the Victory Liberty Loan, and both officials and employes have rounded out some good sized subscriptions for the bonds. When you want something done and done right in the ceramic industry, all that is needed is to call on some of the live and progressive plants in this district. That they "are there" is shown by the encouragement given to the new local hotel project, which is now almost under way towards actual construction. Trenton is in need of a good hostelry, as visitors to the city so well know. The local sanitary ware plants are working well towards a 40 to 50 per cent. basis of production; the chinaware works are busy and things are picking up for the porcelain plants.



Some improvement is noted in the sanitary pottery business. While it is true that considerable new building construction has been held up on account of labor differences, there is an increased demand for sanitary ware. For some months this branch of the industry was practically "dead." Since February, however, there has been an increase in orders, altho the manufacturers could take care of considerable more orders without much inconvenience. One plant at Clarksburg, W. Va., which has been rather inactive for quite a time has increased its clay shop forces, and this is taken as a healthful sign in the sanitary branch of the trade.



The Katzenbach & Bullock Co., New York, specializing in whiting, flint, zinc oxide, etc., for the pottery and other trades, has opened an office in the Metropolitan Building, Akron, Ohio, to handle its middle west trade, primarily thruout the state of Ohio. The branch will be in charge of A. W. Barber and will carry a stock of materials to provide for immediate service. The company maintains offices at Trenton, N. J., and furnishes material to a number of the well-known plants in this district. Other branches are located at Boston, Mass., and San Francisco, Cal. E. L. Bullock is president.



Operations at the new plant of the Chelsea China Co., at New Cumberland, W. Va., which concern is controlled by Wheeling, W. Va., interests, are expected to start within a month. Kilns have been rebuilt and improved, additional machinery installed in the clay shops, and additions made to warehouses and shipping departments. The concern will

make a specialty of vitrified hotel china, and it is possible use will be made of a new continuous kiln later in the year.



The Monument Pottery Co., Trenton, N. J., has arranged for the establishment of a garden for its employes during the coming season. A tract of land owned by the company and directly opposite its plant, has been selected by Franklin J. Wolff, treasurer and in charge of the mechanical work, for this purpose. The site will be arranged for gardening by the company and portions allotted to the workers to be maintained thru their individual efforts.



General ware pottery manufacturers are installing sagger machines where it is possible. The use of this improved piece of clayworking machinery enables manufacturers to dispose of the labor of several men in the sagger shop and at the same time more than double the daily production of saggars. The Colonial Pottery Co., of East Liverpool, Ohio, is the most recent installation. The machine is the development of a Trenton, N. J., machine concern.



The J. B. Owens Tile & China Co., at Zanesville, Ohio, has let the contract to Gamble & Bryan, of East Liverpool, Ohio, for the construction of additional continuous kilns at their plant there. Two continuous decorating kilns are being built at this plant and also one general ware continuous kiln.



James Bailey, who has been factory manager for the Shenango China Co., at New Castle, Pa., has resigned that berth to go with the Bedford China Co., whose new plant has just been placed in operation at Bedford, Ohio. Construction of the latter plant is said to be the "last word" in pottery building. More mechanical effects are brought into service in the clay departments of this pottery than any other in the country.



The West End Pottery Co., of East Liverpool, Ohio, has started manufacturing a complete line of hotel ware, this being an addition to its general line of dinnerware and other specialties of table utility. President Charles C. Ashbaugh, of this firm, recently announced that the firm would likely place a new dinner shape on the market next December for the 1920 trade.



Quite a demand exists this season for art garden pottery, and those plants located in the Cincinnati, Ohio, district have considerable advance business on file. During the last few years there was very little trade in this line of pottery due to war conditions, but since the signing of the armistice and the opening of spring, general business with these manufacturers has been exceptionally good.



The National Brotherhood of Operative Potters subscribed \$25,000 to the Fifth Victory Loan. The East Liverpool pottery town had a quota of over \$700,000 to reach, and this was done before noon on the last day of the three weeks' drive. In all previous loans this district went over the top by handsome margins.



Report is current that a small pottery plant is to be built at Portland, Ore., by Portland interests. Inquiries have been made in the east concerning cost of building and kiln construction.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Method of Setting Heavy Machine Bases

It is not always an easy matter to set clayworking machinery on its base in a manner so that it is absolutely level as it is desirable that it should be. At a factory where three large motors were being installed, a comparison of two methods of procedure in lining and leveling machinery was made and it was found that the use of parallel or shims was much better than wedges for this kind of work.

The first motor was set by using shims and wedges, and it required three men six days to set the base. It was first lined up, then leveled with wedges, then lined again which necessitated leveling again, etc. The trouble was that when the base was jacked over for line, sliding on the wedges raised one side and lowered the other and sledging the wedges to level up threw the base out of line.

In setting the other two the following method was used, requiring one day for each base. All thicknesses of shims from five-eighths inch to sheet tin were first secured. The base was raised with the crane and leveled on four piles of shims, no wedges being used. It was then lined up with hydraulic jacks and found to be still level. This made a saving on the two bases of ten days for three machinists, amounting to \$198. This method can be used on all machine bases, where they can be lifted with a crane or jacks.



Method of Banking Fires

Banking fires is a matter of great importance in saving time, money and labor. Pushing back the live coals to the bridge-wall and covering them over with green coal, especially soft coal, is a mistake. This kind of a bank will lie dead over night and probably Saturday afternoon and Sunday, allowing the boilers to cool down and reducing the pressure. On hauling those banked fires down again, probably one or two hours before starting time, it will take a good many shovelfuls of coal to get the pressure up to where it belongs. There are other things, however, that will waste coal. The blowoff and other valves leading from the boilers may be leaking, allowing the boilers to lose water during shutdown time; and to make up for this, one is likely to have to let a large quantity of cold water into the boilers before starting the fires. This water should be supplied beforehand thru a heater when the plant is in operation.

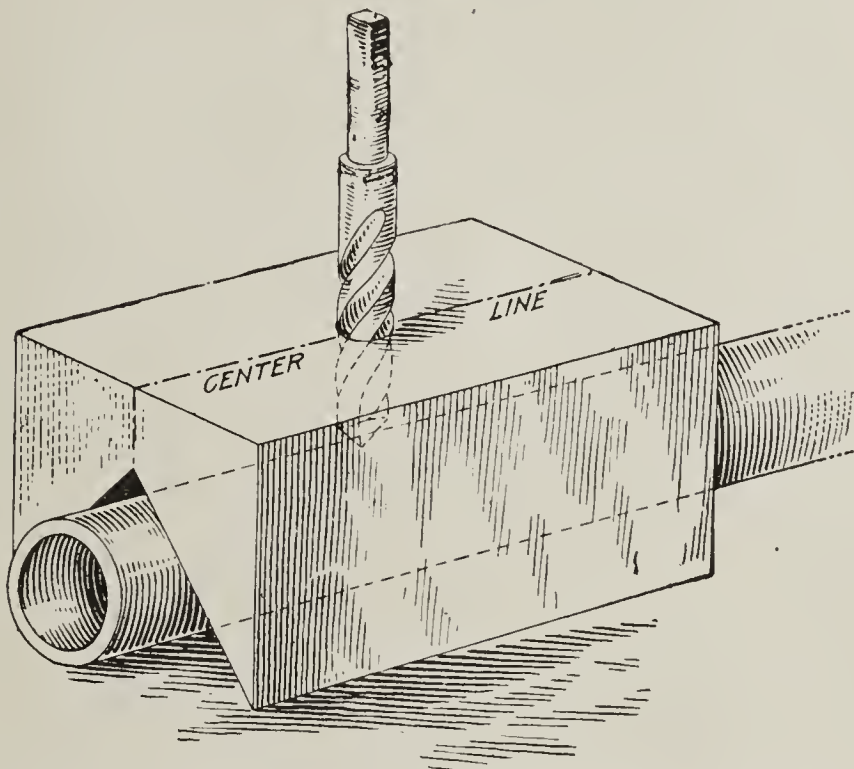
Following is my method of banking fires. I do not push the live coals to the bridge-wall, but cover the fire all over with green coal (this is what we call banking fires flat) half an hour before shutting down, allowing the pressure in the boilers to drop fifteen to twenty pounds; then I open the furnace doors wide and close the dampers and the ashpit doors. We close all valves but the stop valves. The pressure in the boilers varies only from five to ten pounds during the night. I claim that this method of banking fires saves the brick lining and also the boilers from sudden contraction and expansion in getting steam up before starting. Many firemen think that this method makes the fire hot to clean before starting, especially in summer. In the morning

we open all dampers and push the fires back to the bridge-wall. We then close the furnace doors and let the front of the fire burn down to the ashes, which takes from five to seven minutes; then we clean the fire, which is cool at the front. I believe this is a good method as it has proved so in this plant.—*P. Malloy, in "Power."*



Preventing a Drill From Slipping

Having a number of holes to drill in a pipe, I at first experienced some difficulty, as the drill would tend to slip. I then took a block of wood, cut a true V-shaped notch and placed it over the pipe. A line was drawn thru the center of the block corresponding to the bottom of the V and a



Showing Method of Using a Notched Wooden Block to Prevent a Drill From Slipping on Round Stock.

hole drilled on this line. Putting the drill thru this hole brought it on a center line of the pipe, and at the same time furnished a support for the drill, thus preventing it from slipping. Pipe of different sizes can be drilled with this same block.—*J. M. Purcell, in Power.*



F. B. McFarren, general manager of the Interprovincial Brick Co. of Canada, Ltd., Toronto, Ont., states business is extremely good. This concern has, during the past few months, been making improvements on their plant, building kilns to increase the capacity. They contemplate further kiln building and have added twenty-five new men to the working force. On account of the high freight rates, the shipping radius is becoming more limited, but the question of freight rates is being taken up thru the Canadian Manufacturers Association and relief is hoped for.

IN *the* WAKE *of the* NEWS

Being a Brief Mention of a Host of Interesting Happenings in the Varied Fields of the Clayworking Industry

Personal

George Chambers, of Gladding, McBean & Co. is spending several weeks' vacation at Carmel, Calif.

Joseph Platte, 84 years old, a retired brick manufacturer, died at his home in St. Charles, Mo. on April 27.

N. L. Kepple, but recently discharged from U. S. Service, has been employed as the new manager for the Dysart (Iowa) Brick & Tile Co.

Will S. George, head of the W. S. George potteries located at East Palestine, Ohio; Kittanning, Pa., and Cannonsburg, Pa., has been spending a season at Hot Springs, Ark., accompanied by Mrs. George.

J. L. Platt, of the Platt Co., Van Meter, Iowa, has returned to the plant after spending several weeks at Ann Arbor, Mich., where he was taking treatments for his health.

Lawrence E. Stone, formerly manager of the Shackleford Brick Co., Des Moines, Iowa, and for the past several months with the Goodwin Tile & Brick Co., has deserted the clay products field and joined the H. H. Polk Co., a Des Moines real estate firm.

Allen Platt, son of C. B. Platt, secretary of the Permanent Buildings Society, was married May 3 to Miss Star Rife, of Des Moines. Mr. Platt since his discharge from the aviation branch of the army January 1 has been in charge of the Platt Co.'s plant at Van Meter, Iowa.

George Johann and William McCartney, employes at the plant of the Thomas Maddock's Sons Co., Trenton, N. J., manufacturers of sanitary earthenware, have returned to the works, following service in the army. Mr. Johann was connected with the United States Aviation Service and Mr. McCartney with the British Army.

Thomas Sant, head of the clay brokerage firm of that name with general offices in East Liverpool, Ohio, and who is well known thruout the ceramic industry, sailed May 13 for Europe. After conferring with his connections in England, he will proceed to Switzerland, where he will visit relatives whom he has not seen for many years. He will be away about two months.

Charles A. Rawson, president of the Iowa Pipe & Tile Co., Des Moines, Iowa, and one of the best known clay producers of the state, is out with a definite announcement of his candidacy for governor of Iowa at the next primaries. Mr. Rawson's announcement was cabled from France where he is doing work as a Y. M. C. A. secretary with the A. E. F.

When Lieut. Donald Thompson, secretary of the Thompson Pottery Co., of East Liverpool, Ohio, was wounded in battle just one hour before the armistice was signed his commission as Captain preceded him home. He was commended for bravery in action, and won his promotion thru individual effort. He is now in a base hospital and is expected to be discharged from service within a few weeks. His wounds are healing quickly, altho he suffered long.

The San Francisco trade regrets exceedingly the recent death of W. H. Edwards, secretary of the Brick Manu-

facturers' Association, who passed away rather suddenly at his home in this city on the 27th of April. Mr. Edwards had been ill for about two months prior to his death, but several days before he was taken, his condition had improved somewhat and he was able to come to the office for a short time each day, and his friends thought that he would recover. He was 71 years of age and is survived by a widow and three children.

William Sleicher, Jr., retired brick manufacturer, banker and philanthropist, died at his home in Warwick, N. Y., after an illness of four months, on April 30. Thruout most of his life Mr. Sleicher, Jr., was one of the most prominent residents of that city. He was born in New York, September 17, 1843. For several years he was interested in the manufacture of fire brick, having an interest in the Queen's Run Fire Brick Co. at Lock Haven, Pa. as well as the North Bend Fire Brick Co., Gleasonston, Pa. and the West Branch Fire Brick Co., of Renovo, Pa. He served as president of all three of these companies. About three years ago he retired from business and purchased a farm at Warwick, N. Y. where he resided up to the time of his death.

News was received in Louisville, Ky. on May 9, relative to the death at Lexington, Ky., of Fred A. Cramer, 74 years of age, who died after a month's illness. Mr. Cramer was the pioneer brick manufacturer of the district, and reputed to be one of Lexington's wealthiest citizens. Mr. Cramer came to Lexington in 1884, from Rock Island, Ill., as a mechanical engineer, and built the Lexington reservoir. Later he established the Lexington Brick Co., of which he was president for many years. He is survived by three sons, W. S., F. R., and H. C. Cramer, all of whom are prominent business men. Harry C. Cramer is head of the Lexington Brick Co. today, and is also president of the Kentucky Clay Products Association.

Samuel Geijsbeek, secretary and treasurer of the Oregon Clayworkers' Association and the Northwestern Clay Manufacturers' Association and also one of the organizers of the American Ceramic Society dropped in the offices of *Brick and Clay Record* recently while on his journey back to Portland, Ore. He has just returned from a two months' trip to Europe where he visited England, France, Belgium and Holland for the purpose of studying conditions in the clay industries there. He reports that conditions are in a very unsettled state at present and that indications are there will be very little manufacturing of clay products or any building done for some time to come. Mr. Geijsbeek also states that the methods of manufacturing are quite different over there, more time and care being given to the curing or weathering and the preparation of the clay than here and also greater care in burning operations taken.

Alabama

At Carthage, Ala., the Kivett Brick Co., has been formed with a capital stock of \$25,000 by W. G. Jennings and M. G. Daltymple.

H. M. Johnson, of Gadsden, Ala., has announced that in

the new plant he and others will erect at Attalia, Ala., they will install a stiff-mud brick outfit with a capacity of 20,000 brick per diem. An electric motor of from 25 to 40 h. p. will also be installed.

The Bickerstaff Brick Co., Brick-Yard, Ala., is running full time and at present has orders about 30 days ahead. A new brick machine has been installed at this plant and A. H. Bickerstaff, president, states that they are turning out a better common brick all the time and expect to start the repress in a few weeks and develop that trade. The company has been carrying on a "Build Now" campaign in its regular territory which is showing excellent results.

J. W. Minor, of the Bessemer Fire Brick Co., Ensley, Ala. writes that their business is at a very low ebb at this time with every little prospect for immediate improvement. They have rebuilt both of their dryers, one at Bessemer and one at Ensley, with hollow tile construction, and reset the dry pans at Bessemer, also making other minor improvements balancing up the plant to a normal output of their machinery capacity. A new assistant superintendent has been employed at the Bessemer plant. The company is endeavoring to secure a greater shipping radius, at the same time developing a greater demand in their present markets, with an eye to some export business. During the war the Bessemer Fire Brick Co. operated almost exclusively on war material, which, of course, rather disorganized their sales department. They are now considering the handling of their product thru a sales agency.

Roper-Strauss-Ferst Co., Inc., Birmingham, Ala., writes that business in the South is picking up quite a great deal and that tile is being considered more this year than ever in the history of the tile business in the South as people are beginning to realize that it is better to pay the difference and use burned clay products. This company was recently reorganized, J. W. Ager becoming vice-president and general manager. Mr. Roper retired to go to Jacksonville. The company has made an extension to its plant and is now producing approximately eighty tons per day finished product. At the present time, new machinery is being installed and an effort is being made to decrease the cost of manufacture as much as possible. This concern will soon have on the market a new block which will be a great improvement over the present type of tile, according to H. M. Maning, sales manager, who further states: "We believe that the South is entering upon the greatest era building boom in its history and that clay products will more than get its share of the business."

Arkansas

Lamar Williamson, secretary of the Monticello (Ark.) Chamber of Commerce is desirous of being placed in communication with financial interests which might be induced to install a brick plant at Monticello, which, he states, is in the center of a large territory in which there is much building in contemplation and in which there are no brick plants. Brick for local work has to be shipped a considerable distance, with incidental freight charges, which should make such a plant a paying investment.

California

The lowest bid on the brick and tile contract for the new Park-Presidio school building, San Francisco, Cal., was offered by Amiel Hogberg, at a price of \$7,400.

White & Gloor, of San Francisco, Calif., have contracted for the brick work on a four-story and basement apart-

ment building in Post Street, near Leavenworth, for \$6,500.

The California Brick Co., at Niles, Calif., is manufacturing and shipping large quantities of partition tile and is expecting a noticeable increase in this line of business supplying the demands of the Sacramento and San Joaquin valleys.

A five-story brick and steel office building is to be erected in the near future at 11th and I Streets, Modesto, Calif., by the Modesto Moose Lodge. The estimated cost of the structure is \$150,000. Plans for the building will be commenced at once.

The Atlas Fire Brick Co., a comparatively new firm in Los Angeles, Calif., reports a satisfactory amount of business in the manufacture of magnesite, chrome, silica and high-grade clay fire brick. The present officers of the company are M. M. Findley, president; M. I. Powers, vice-president and treasurer, and Nick Harris, secretary.

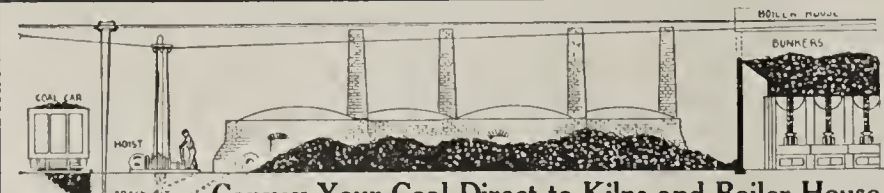
The S. P. Brick Co., Exeter, Calif., which has been closed for the past two years on account of no labor to be had and the high price of oil, with the decreased demand for brick, intends to remodel its entire plant and have it running by fall in good shape, according to W. D. Trewhitt. The company expects to put in a tile machine and to improve the quality of ware as well as increase capacity of the plant. The year's supply of 6,000,000 brick has been contracted for from one of the competitors of the S. P. Brick Co.

Building reports from Stockton, Calif., indicate considerable activity in that section. The American Pencil Works is erecting a plant there of brick construction, and the large paper factory is contemplating a brick addition to the factory. Plans are being prepared for alterations to a one-story brick building in Center Street, changing the structure from a store building to a motion picture house at a cost of about \$8,000. Plans are also being prepared for a two-story brick and stucco store and apartment building in Lafayette Street between California and American streets. The estimated cost is \$10,000.


There seems to be a difference of opinion among San Francisco clay products manufacturers as to conditions at the present time. There is no question but what building activities have practically doubled within the last month or two. All over the state building permits have greatly increased, but in many cases brick men report very little stimulation in their particular line. From other clay products offices in San Francisco comes the word that the number of contracts is rapidly growing with anticipation of still more work scheduled for the near future. Just what the true situation is at this time is difficult to state on account of contradictory reports, but where there is smoke there is usually a blaze, if only a small one, so it is likely that the long awaited business is coming the way of some of the manufacturers, even if there is not enough to distribute generously among the entire trade.

The Remilliard Brick Co. is one of the local firms to speak optimistically of trade conditions and has doubled the force of its Pleasanton (Calif.) plant within the last two months. A. E. Snell, of the San Francisco office, stated that the company was contemplating opening a second kiln this season, feeling that the 2,000,000 or more brick sold during April and May was an indication that future business would warrant the increased capacity. Mr. Snell remarked that a considerable amount of shipments were being made in the San Joaquin Valley, the recent building activities in that section stimulating the use of brick and allied products to a satisfactory degree.

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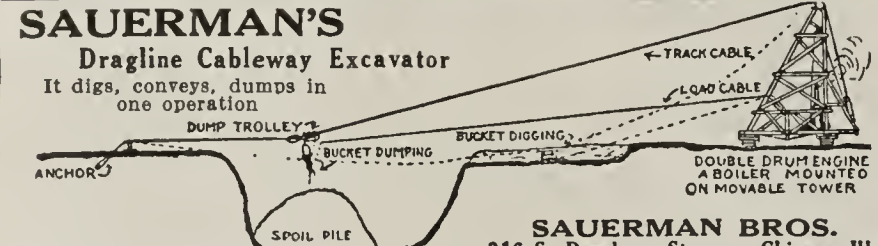


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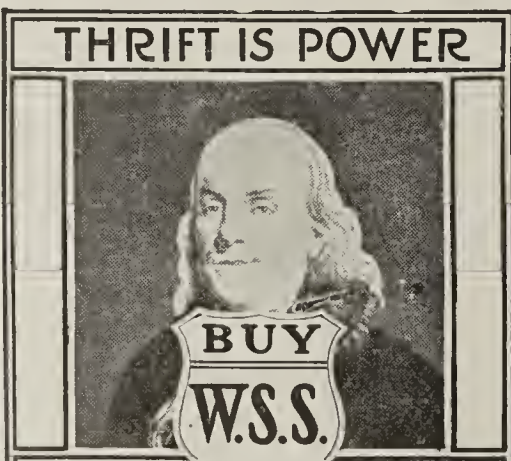
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SAVE AND SUCCEED

This concern is furnishing in the neighborhood of 365,000 brick for the P. J. Walker Co., San Francisco contracting firm, for a construction job at Emeryville, Calif., also about 150,000 for the addition to the Chevrolet Motor Manufacturing Co., at Melrose.

Delaware

The Quimby Interlocking Tile Co., Dover, Del., has been incorporated with a capital of \$100,000 to manufacture interlocking ceramic tile. L. B. Phillips, Harry McDaniel and A. J. Kingsbury, Dover, are the incorporators.

Georgia

It is announced that the new plant of the Independent Brick Co., which is to be erected at Augusta, Ga., will have a daily capacity of 500,000 brick. The company has been formed and has announced its capital stock at \$25,000.

Idaho

The Sandpoint (Idaho) Brick & Tile Co. has filed articles of incorporation, with Thomas King, Oscar A. Anderson and H. W. Sanders as principal stockholders. The company is capitalized at \$20,000 and will take over the former Anderson brickyard.

Illinois

The Utica (Ill.) Fire Brick & Clay Co. has increased its capital stock from \$30,000 to \$100,000.

Yard No. 4 of the Purington Paving Brick Co., Galesburg, Ill., which has been closed down since December, was reopened and is running a full force of men. Yard No. 1 will also be opened shortly.

The Springfield (Ill.) Paving Brick Co. resumed operations at its plant on May 6, after an idleness of almost a year on account of the war. It is reported that a force of 100 men are now at work on this plant, turning out 100,000 common and paving brick a day.

Indiana

Two men were seriously injured at the plant of the Hydraulic-Press Brick Co., Brazil, Ind. recently when a kiln in which they were making repairs caved in.

Plans and specifications are being drawn up for the erection of a handsome new brick high school building at Claypool, Ind. The structure is being planned with a view to using it as a community hall for gatherings of all kinds.

The Bloomfield (Ind.) Brick Co.'s plant was bought recently by a company of Vincennes men, among whom is Claude E. Gregg, formerly in business in Bloomfield. The amount of the consideration has not been made public. Cyrus E. Davis formerly owned the controlling interest in the plant.

New building work and improvements in Indianapolis continue to run far ahead of the amount done last year, according to the records in the city building commissioner's office. The value of the work to be done under permits issued in April is more than double the amount of April last year. There were 802 permits issued last month as compared with 479 in April 1918. The valuation totaled \$987,999 last month as compared with \$445,422 for April in 1918.

Prices of some building materials, including fire brick, cement, flue lining and hydrated lime, as quoted by In-

dianapolis, Ind. dealers, show a slight decline. Fire brick prices have dropped about \$5 a M, and there is a decline of about 7 cents for cement, formerly quoted at 90 cents a bag in paper and \$1.10 a bag in cloth. Flue lining shows a decline of 5 per cent., and hydrated lime, which formerly was quoted at 45 cents a sack, is now 41 cents to 43 cents.

H. R. Myers, superintendent and general manager of the Edgerton (Ind.) Clay Products Co. advises that business conditions are at present fair with prospects good. This company has recently installed new boilers and new clay hauling and loading apparatus and is preparing to increase its market by local advertising, at the same time launching a campaign to extend its shipping radius. Charles F. Asmus, an experienced machinist and clay-worker, is now in charge of the working force at this plant.

Notwithstanding the fact that the state of Indiana is renowned the country over for its good hard-surface roads, active work has been started whereby a full system of roads, many of them of brick, will be under way by April, 1920, connecting every county seat, town or city of 5,000 population or over. Now that the state highway commission is backed by a favorable law and court decisions, Indiana is ready to match the federal funds available for road building up to 1921, involving an expenditure of \$15,000,000 by that time.

Iowa

The Permanent Buildings Society will hold its regular meeting at the Chamberlain Hotel, Des Moines, Iowa, May 20. This will be the last meeting before the annual convention, July 1.

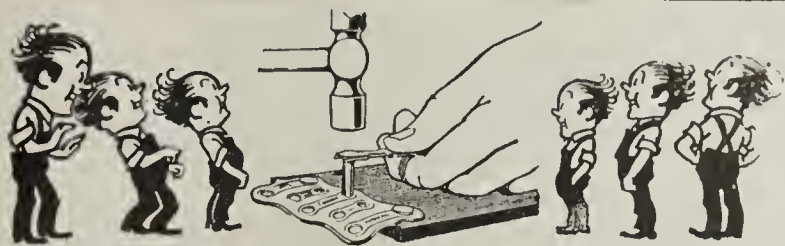
The Engle Tile & Fuel Co., of Newton, Iowa, has filed articles of incorporation with the secretary of state. The new concern is capitalized at \$100,000. Percy Engle is president and Tim Campbell, secretary.

In the Mason City, Iowa territory business reports are most optimistic. Nearly all the plants are considerably behind with their orders and are experiencing difficulty in securing sufficient labor to carry on the heavy demands.

A strike of building trades unions which has been on in Des Moines, Iowa, since April 1 has had a material effect on the trade in the Des Moines territory. At present there are no signs of a settlement between the union men and the contractors.

A number of the plants in the Des Moines and Mason City, Iowa, districts are figuring on constructing clay planers similar to the ones in use by the McKissick Co., at Carlisle, Iowa. The Carlisle planer was designed by Ward Mitchel, son-in-law of Mr. McKissick.

One of the most important transactions in the Iowa clay trade during the past year was the purchase recently by T. J. Neiswanger, of Harvey, Iowa, of the Oskaloosa Vitriified Brick Co., Oskaloosa, Iowa. Mr. Neiswanger has acquired all the stock of the Oskaloosa company and its plant. He has now organized a new company which will operate both the Oskaloosa and Harvey plants, to be known as the Standard Clay Products Co. The Oskaloosa plant is considered among the best in the Iowa field. It is a producer gas plant and on account of inability to secure the Indiana coal necessary for its operation was forced to close about a year ago. Under the new regime the Oskaloosa plant will be used largely for the production of common and face brick while the Harvey plant will turn out drain tile and building tile. Mr. Neiswanger



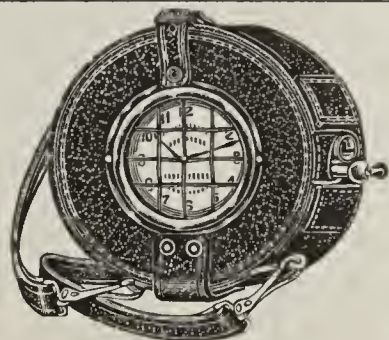
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By equipping your watchman and
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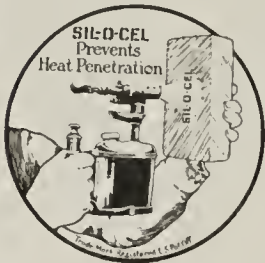
For Indicating and Recording are particularly adapted to high sustained temperatures, where the value of entire burns are dependent on correct readings.

They measure up to the high standard maintained by Bristol's Instruments for over a quarter of a century.

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Heat Losses Must Be Reduced



The ceramic industry faces a permanent increase in fuel costs. Insulation of kilns with Sil-O-Cel is the most effective step in reducing this waste. The most efficient kilns in the country are insulated with

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NEW YORK CHICAGO PITTSBURGH LOS ANGELES SAN FRANCISCO
11 Broadway Monadnock Bldg. Oliver Bldg. Van Nuys Bldg. Monadnock Bldg.

They Drill Big Blast Holes

at the plant of the Kansas Buff Brick & Manufacturing Co., Buffville, Kansas.

They say:

"It has cut the labor and fuel bill about 60%, and the powder bill about 50%. It paid for itself in the first three months; it saves enough powder each year to more than pay for its initial cost."

This is interesting because it is a fact.

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The Sanderson Cyclone Drill Co.
Orrville, Ohio

BRODERICK & BASCOM ROPE CO.
SAINT LOUIS, MO.

Manufacturers of

B. & B. WIRE ROPE

AND

Aerial Tramways
For Economical Haulage



A28

has been in the clay products field for the past sixteen years and several of his sons are associated with him.

Kentucky

The Brawner Brick Yard, at Frankfort, Ky., which has been idle for some time past, is getting in shape to start operations at an early date, planning to make up a fair stock and run as demand requires.

A meeting of the eastern district brick men, members of the Kentucky Clay Products Association, has been postponed, but will probably be arranged for some date late this month or in early June.

The Ashland (Ky.) Fire Brick Co. has been allowed registration by the United States patent office of its "Savage" and "Ensign" brands of high grade Kentucky fire brick, both of which brands have been used by the company for many years. Registration of the "Savage" trade mark is covered by registration certificate 125121 and the "Ensign" trade mark by certificate 125122, both dated April 15, 1919.

Manager James T. Howington, of the Coral Ridge (Ky.) Clay Products Co., reports that his plant is operating about half time, but that business is gradually picking up, and he has hopes of being able to get on a full time basis within the next few weeks. Business has not opened up as rapidly as he had expected during May, but bad weather has been one of several drawbacks.

The Lexington (Ky.) Brick Co., has been overhauling its machinery and kilns, and is now in shape to start operations within a few days. The company has had a fair stock on hand, and hasn't been forced to run much for some months past. A big hotel project, and one or two other large buildings have been announced recently for that city, and there is a fair amount of good rural work in sight.

According to A. P. McDonald, of the P. Bannon Pipe Co., Louisville, Ky., prospects are opening up rapidly. Mr. McDonald has been on the jump for several weeks past, and has visited any number of towns up in the state where business looks good. Two good tile prospects are found at Pineville, Ky., where a new Court House to cost around \$105,000 and a new Masonic Temple are to be let shortly. The local plants are operating at full time, and while some material is going into stock the demand is coming closer and closer to taking production.

Oscar Hillenbrand, of the Progress Pressed Brick Co., Louisville, Ky. was found in a very optimistic frame of mind. The company during the past few days has booked orders for more than 300,000 common and face brick, and has secured many inquiries, which promise to develop business. Regular deliveries are being made on two fair contracts. The company expects to fill up within about three weeks, and then close down, running only as demand requires. At present it has a stock of about a million brick on hand.

The Coral Ridge Clay Products Co., patriotically contributed a considerable amount of advertising in connection with the Fifth Liberty Loan in Louisville, being one of a number of companies which cooperatively contributed page after page of bond advertising material in full page form thru the local papers, merely being mentioned in the bottom of the ad. The loan called for a little more than \$11,000,000 in Louisville, and was oversubscribed by a million dollars in a three day campaign, this showing the general prosperity of the city.

The Barbourville (Ky.) Brick Co., has excellent prospects thruout the Cumberland Mountain district. The Government plans a number of new postoffices, etc., in that section, while there are several large buildings, court-houses, and lodge homes planned. The mountain towns have been growing rapidly as a result of activity in coal, oil and timber in that section, and a great deal of building is in prospect. The company has two excellent contracts in sight, in towns so far removed from other plants that freight rates kill competition.

The Maysville (Ky.) Brick Co. report business conditions to be improving with orders coming in slowly now, and prospects for plenty of business in a few weeks. This concern is now manufacturing standard size common brick, having found their old brick too large. A new soft-mud machine as well as a new steam shovel have just been installed at this plant. Wm. H. Hall, the manager, states that they are busy boosting burned clay products at every opportunity, and have recently taken the matter of brick paved county roads up with the Maysville Chamber of Commerce.

The brick business, according to the leading manufacturers and jobbers of Louisville, Ky., is not exactly booming, but it is picking up right along, and indications are for a very fair volume of business when things finally get onto a normal basis. Inquiries are coming in rapidly, and there is a tremendous volume of work under consideration. Several projects for additions to local office buildings are being considered. In every event these buildings were faced with high grade face brick, and the original facing will be duplicated in additions, resulting in the same jobbers who furnished the original securing repeat orders. One jobber in commenting on this business remarked that it was much like collecting premiums for insurance written several years ago by the agent.

Maryland

The Mayer Brick & Tile Co., Frostburg, Md., according to J. E. Mecusker, manager, has been busy making repairs and improvements at the plant, such as paving around the kilns, covering the crowns of the kilns, installing a pump to return water to the boiler from the steam coils in the dryer, etc. This concern, which heretofore manufactured common building brick exclusively, has now added pavers to its line and expects to double the capacity of the plant. At the annual meeting, Dr. J. C. Cobey was elected president of the company, to succeed F. H. Schreiber who retired because of other business interests which called him away from the city, and Frank Walt succeeded Dr. J. L. Ritter, resigned, as treasurer.

Massachusetts

The plant of the Sand Lime Brick Co., at Medfield, Mass., has been sold to Ernest E. Smith. The property consists of about 110 acres of land with the brick making plant and several dwelling houses and other structures. The plant was built about five years ago and is said to have cost about \$200,000, including all equipment. The sale price has not been announced.

Considerable sewer work is underway or contemplated in various sections of Massachusetts. Little work of this kind except that absolutely necessary was done during the war because of the high prices of materials and the shortage of labor and many cities and towns are now starting in to catch up. The opening up of new residential

Many plants have improved their ware, saved time and saved lots of fuel with a Price Pyrometer.

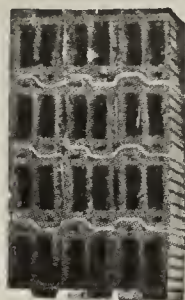
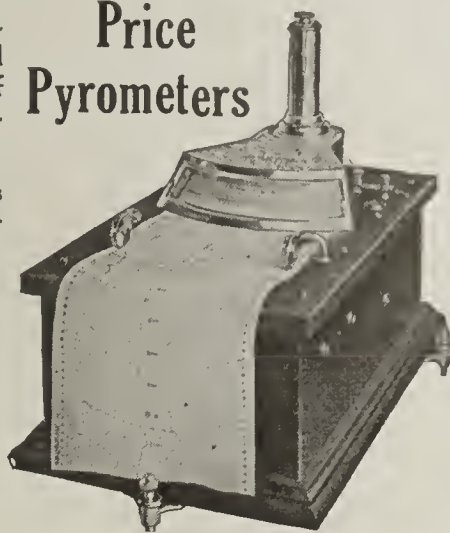
Any one of these savings justify a Price Pyrometer on your kilns.

We want to tell you more about them. Write us to-day.

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"LOXALL" Popular Hollow Tile

is being licensed to manufacturers in the U. S. A. and Canada. It has earned the title of "Popular Tile" because it is easy to make, lay and sell, and is liked by the

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If you are interested in this money making proposition, get in touch with us at once.

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We Can Save You Time, Money and Trouble on Fire Brick

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A Trial Shipment Will Convince You. Write Us

ALSEY BRICK & TILE COMPANY
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Improve Your Burning

The Burner can, and does make the balance on either the right or wrong side of the ledger. It is a mistake to let a green, unskilled man handle the kilns, as is done on many brick plants. My 30 years of actual, practical experience in handling all kinds of kilns and burning almost everything made of clay or shale enables me to boost the profit side of your ledger.

Correspondence is freely invited.

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Pyrometer Expert and Kiln Specialist

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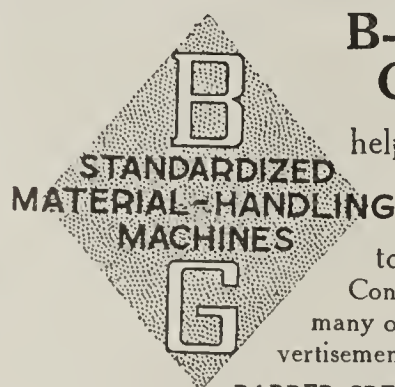
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On September 7, 1916, we shipped some of our No. 18 Union Steel Chain Belting, which operates on standard No. 88 sprockets, to the Haviland Clay Works, Haviland, Ohio. On March 5, 1919, we shipped them new pins for this chain, and have just received their letter, stating:

"We received the pins and cotters, and after re-pinning the chain, in use so many months, it gives as good service as ever. Your chain fills our needs exactly."

Write us for details which show how these Trouble Proof chains can fill your needs exactly.

THE UNION CHAIN & MFG. CO. Seville, Ohio

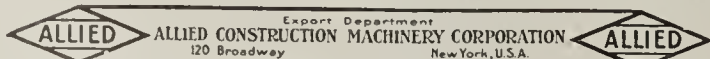


B-G PORTABLE CONVEYORS

helped the Superior Sand Co., of New Lexington, Ohio, to cut their handling costs from 10c to ½c per ton of sand. B-G Conveyors perform equally as well for many others. Watch for our full page advertisements in the FIRST ISSUE of each month.

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Branch Sales Offices in Principal Cities



districts will add materially to the amount of this kind of work to be done and dealers in drain pipe are looking forward to some good contracts.

Massachusetts brick manufacturers report a slight improvement in business conditions during the past few weeks. Orders for small lots are becoming more numerous every day and some good sized contracts have recently been placed so that on the whole prospects appear much brighter. Prices continue firm at \$18, delivered on the job and dealers do not look for any change in the immediate future. The labor situation is becoming less acute altho high wages still prevail and probably will for some time to come.

Missouri

The Blackmer & Post Pipe Co., St. Louis, Mo., will build a one-story annex to the plant at Hereford Street and Reber Place, to be used as an office. Herman Meyer was awarded the building contract.

In a recent report of the Department of Labor St. Louis is listed as being \$20,284,971 deficient in normal construction since the beginning of hostilities. Missouri is credited with \$55,000,000 deficiency and East St. Louis with \$77,184.

The Laclede-Christy Clay Products Co., St. Louis, Mo., has given most all of their returned soldiers their former jobs and have but a small number yet to return while other brick firms have large representations in the two units just returned to St. Louis and have agreed to re-employ men of these regiments no matter what the condition of business may be.

Figures issued by the Building Commissioner's office show an increase in construction in St. Louis during the past month over April 1918. Last month's figures show that 703 building permits were issued for improvements totaling \$1,019,470. In April last year 184 building permits were issued for construction operations placed at \$530,028. The figures for previous years were: April 1917, permits for 733 buildings, \$1,707,991; April, 1916, permits for 754 buildings, \$1,003,145; April, 1915, permits for 981 buildings, \$981,719; April, 1914, permits for 1,090 buildings, \$1,734,412.

Additional proof that brick and clay products business in St. Louis is on the increase is evident from the fact that a number of concerns have increased their sales forces within the last few weeks. The new men are being used to a great extent in out-of-town territory, a few being retained in the city. The Laclede-Christy Clay Products Co., the Evans & Howard Fire Brick Co. and the Hydraulic-Press Brick Co. have bolstered up their sales forces. Moreover St. Louis manufacturers are beginning to invade foreign territory with a real display of enthusiasm, and are looking to local business that has admittedly suffered from inroads made by Illinois and Wisconsin manufacturers.

At the offices of the Laclede-Christy Clay Products Co., St. Louis, Mo., it was stated as the belief of a number of officers that the erection of the large General Motors Co. plant in St. Louis would relieve conditions to a great extent in regard to labor, manufacturing and building. Doubt was expressed that St. Louis firms would have the field undisputed as it is reported out-of-town manufacturers will make efforts to get the big supply contracts. It is safe to say that, while work on the first main building will not start until mid-summer, practically every firm in St. Louis has made speculative plans on the supply

contract. The Detroit company purchased the major portion of the tract on which the big plant will be erected from the Hydraulic-Press Brick Co.

Despite the increase in construction last month, Director of Public Safety McKelvey says that building in St. Louis will not be appreciably increased until the cost of material is considerably reduced. McKelvey pointed out that due to the high cost of construction, a residence which before the war cost \$6,000 to build now would cost \$10,000. He said that an office building today would cost 80 per cent. more to erect than the same building before the beginning of hostilities. Rents in an office building constructed today, he added, would have to commensurate with the cost of construction and the builder would be unable to compete with the owners of buildings erected before the war. Manufacturers differ with Mr. McKelvey on two points, that materials will be "appreciably" reduced and that the cost of labor will decrease. They maintain that from all sides come the cries to keep men at their old jobs and also give returning soldiers the positions they left if not better ones. And all the while "business as usual" is still urged to keep the country on its feet during the reconstruction period.

Plans have been completed for the "Own Your Own Home" campaign to be launched in St. Louis. Brick and other clay products manufacturers were well represented at a recent meeting at the Missouri Athletic Association, of financial, real estate, building material, architectural and lumber interests, when Joseph O'Neil, vice-president of the Henry O'Neil Mill & Lumber Co., representing the St. Louis Lumber Trade Exchange, was elected chairman of the Organization Committee and was authorized to name four other committeemen. Among the St. Louis manufacturing concerns represented were: Blackmer & Post Pipe Co., Progress Brick Co., St. Louis Terra Cotta Co., Evens & Howard Fire Brick Co., Superior Press Brick Co., Hydraulic-Press Brick Co., Walsh Fire Clay Products Co., Union Press Brick Co., Superior Press Brick Co., Ewing & Thomas Clay Products Co., Excelsior Press Brick Co. and the Continental Brick Co. The duties of the committee will be to arrange a fund to take care of second mortgages representing 20 per cent. of the investment required in the purchase of homes. These second mortgage syndicates are being operated successfully in other cities where "Own Your Own Home" campaigns have been started.

Montana

The entire plant of the Dowlin Brick Co., about two miles east of Billings, Mont., was destroyed by fire recently. The cause of the fire is unknown. The loss is estimated at \$15,000, partly covered by insurance. The entire plant had been completely renovated and it was planned to resume operations at once. New machinery had been installed but now, with the exception of the manager's residence and office and the eating house and cabin of the local foreman, nothing remains. Manager W. E. Dowlin expressed the opinion that the plant would be rebuilt at once, orders for a large number of brick having been booked.

Nebraska

The Omaha (Neb.) Clay Works have recently installed a recording pyrometer system on one of their continuous kilns and are getting very satisfactory results therefrom.

The Yankee Hill Brick Co., Lincoln, Nebr., has recently

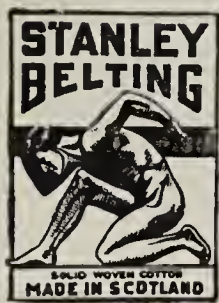
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And you can do this with perfect safety by using

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It neutralizes the salt in your clay so that it cannot appear on the surface of the brick after it gets wet.

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Write for circular and prices.

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Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

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Canton Rocking and Dumping Grates in your plant mean a large saving in fuel, or a greatly increased production with the same amount of fuel. By improving combustion, they make a coal saving of at least 10% in comparison with stationary grates. Peak loads can be maintained easily.

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Canton Grate Co.,
1706 Woodland Ave., N. W.
CANTON OHIO

**CANTON GRATES SAVE FUEL
FOR BOILERS FOR KILNS**

built a clay storage shed at its plant, and is contemplating the installation of a clay granulator, a 100 h.p. engine and a new brick machine. This concern reports business slow at present but that the future looks very promising.

New Jersey

The Sayre & Fisher Co., Sayreville, N. J., resumed the manufacture of repressed hard common brick at its local plant on April 28, after a shutdown dating from January last. It is expected to continue operations for production during the season, using the open yards at the works as soon as the weather is favorable. The plant discontinued production, as noted, thru the large stock of material on hand at that time and the reduced call for brick; the storage facilities were taxed to capacity. The company produces a high grade brick which is much in demand in normal times in different parts of the state. Such places as New Brunswick and Raritan River points are furnished by means of motor trucks.

There is no appreciable slack in building material prices at any of the important cities in New Jersey. Quotations are stable at present levels and there is no indication of any decline on different standard commodities. The question of prevailing prices does not seem to be so much the concern of prospective builders as does the stability of the situation—in other words, will prices fall in a month, two months or three months and can construction be conducted then with greater economy. From all appearances and comments of men of prominence in the trade, the answer is "no;" prices are bound to stay where they are for some time to come; prewar levels are a thing of the past and current quotations are but the result of the economic conditions attending the war.

The brick manufacturers are hitting a good pace in the Hackensack district, and while the cold and unseasonable weather early in May went to retard things a little, production is moving right along. Among the yards now in operation are the Hackensack Brick Co., I. E. Gardner and Henry Gardner at Little Ferry. A yard adjoining this last mentioned property has now been opened up and production inaugurated. The owner of this plant is Mr. Schmalz and Walter Shultz, Jersey City, well known in brick and building circles in the state, has become associated with the enterprise. This yard did not operate during the past season, and it is now planned to make up for lost time. A good grade of common brick is manufactured at the plant.

The April building work at Newark, N. J., seems to indicate a turn of the tide in the right direction. The total construction operations in this month aggregated \$1,152,000 in estimated costs, as against about \$594,000 for the corresponding month of last year. This is an advance of more than a half-million dollars, and is distinctly encouraging to brick and building material men. Moreover, the April 1918 work covered factory construction almost entirely, the boom in this line for war industries then being current, while the 1919 month's totals show very little factory work as regards important and large projects, but rather a broad general increase along regular construction operations. The permits for houses issued during this month exceed the volume of permits issued for this class of construction for the first three months of the year. The housing work for April totaled \$227,500, including a number of brick dwellings. Increased operations in house construction are also under way in the suburbs, including the Oranges, Montclair, Bloomfield and other sections.

New Mexico

It is reported that there is a growing tendency in Clovis, New Mex. to build homes of brick and hollow tile. In other words, Clovis home builders are constructing their residences in a more substantial manner, indicating that they have the utmost confidence in the future of the town.

New York

Arrangements have been perfected for an "Own Your Own Home" Exposition at the Seventy-first Regiment Armory, New York, during the week of June 25-July 2, inclusive. The exhibit will be held in connection with a local campaign for this movement and is being supported by the building trades, real estate organizations, financial interests, building and loan associations, and other interests. It is expected to stimulate building to an extensive degree by the plans as developed, assisting to solve the local housing problem, which has grown to no mean proportions.

The present system of selling brick in the New York market is not a thoroly satisfactory one in all channels of trade, particularly among the building material dealers in parts of Brooklyn. As an indication of what may come in the future, the following comment is interesting; it appears in a local daily, signed by Stephen M. Duffy of Brooklyn: "Considerable dissatisfaction is expressed among a number of the building material dealers in Brooklyn, over the arbitrary action of a small oligarchy of commission men who control the output of brick on the Hudson River. One of the largest dealers in Brooklyn announced that he would buy his brick wherever he pleased and some of the commission men have taken offense at this; the incident may develop into a war which will have its effect on brick prices particularly."

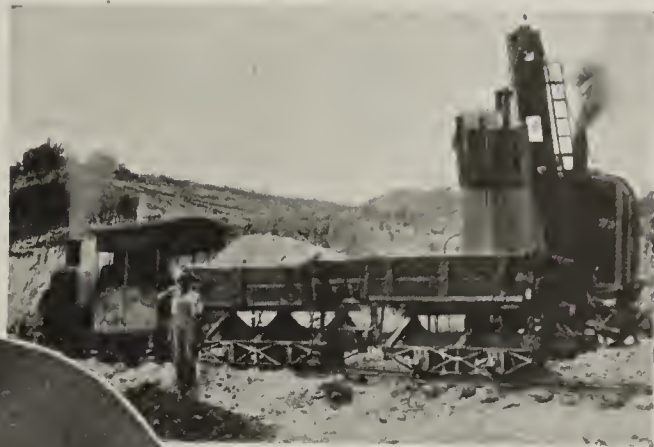
Dealers in high-grade face brick in New York are again, seemingly, coming into their own. The trade as a unit is decidedly optimistic. One of the prominent dealers in this line points out that a number of important projects in New England and New York have now been let, calling for well over a million best quality face brick. Rough and smooth buff, and rough and smooth grays form the bulk of current call and are well in the lead of red shades. The trend is decidedly towards the lighter colors in this section. Work in Greater New York requiring face brick is also coming strong into evidence, and the next few weeks are expected to produce a few attractive orders for standard grades. The supply is gradually being brought up to a near-normal plane and there is no difficulty in securing stocks as demanded. The labor situation is far from satisfactory and it is hoped that conditions in this respect will right themselves in the near future.

Trading continues at a good status in the New York brick market, and the past fortnight has shown considerable activity. During this time 20 cargoes have been sold for local distribution, including Metropolitan districts and points in the different boroughs. The demand for the material is growing and there is a slight undertone that the price may advance. At the present time, quotations hold firm at \$15 per thousand in wholesale lots, alongside dock. The building material dealers are well stocked and there is a good supply of material sufficient for all immediate demands. Face brick is selling at from \$37 to \$46 per thousand, delivered on the job. Light colors, such as buffs and grays are in the largest demand, and present quotations on these are from \$42 to \$45 and \$46.

The "A" ERIE weighs 13 tons. Rated capacity, 30 to 40 cu. yds. per hour.

The "B" ERIE weighs 20 tons. Rated capacity, 50 to 60 cu. yds. per hour.

These rated capacities are often exceeded.



"We are highly pleased with our investment"

"We congratulate you on having put on the market such a labor saver and efficient worker as the ERIE Shovel. We are highly pleased with the machine installed in our pit—very well satisfied with our investment."

Letter signed by J. S. Bone, President Ocome Brick and Tile Company Mill edgville, Ga.

Just one more sample of the letters that we are receiving from Clay Products manufacturers all over the country.



Serves either as steam shovel or as locomotive crane, with clam shell bucket.

They prefer the ERIE Shovel because of its large capacity—they appreciate the ERIE most when there is a rush demand for raw material. And the ERIE is reliable.

Let us send you full information. Write for a copy of our Bulletin B.

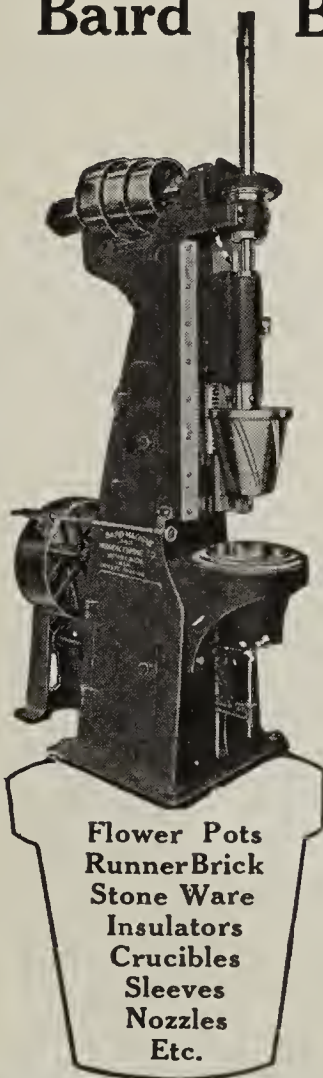
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Baird Bi-Product Machine



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Stone Ware
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Crucibles
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One of these machines installed near the clay bin or pug mill can easily be turned into a money maker.

Any man in the machinery or grinding room can operate it. He can do this while waiting for repairs to be made in another part of the plant, thereby turning lost time into profit.

Machine is adaptable to Flower Pots, Stone Ware, Crucibles, etc. Users assure us that it more than meets their requirements for quality and quantity production.

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"We find that the use of Barium not only entirely eliminates the scum caused by sulphates, but deeper and richer colors result than would be expected." So writes a clay products company in Kentucky.

It is obvious to any clay products manufacturer that Barium Carbonate added to the pug mill or to the dry pan will produce brick and tile that command a higher price. It will build up more business than an inferior product which is "off color" and marred by white streaks.

Barium Carbonate makes the salt glaze stick to sewer pipe.

We can show you how the appearance of your ware can be improved, and can give you names of clay concerns who are profiting today by the use of Barium.

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(Inc.)

Charleston, W. Va.

There is no change in the prices of hollow tile and this material is coming more and more in demand; 2x12x12 inches is selling for \$63.75 per 1,000 sq. ft., and 6x12x12 inches at \$153, delivered on the job. Prices of other materials up and down the line hold firm at present levels and there is no indication of any easing off for some time to come.

Building operations continue to expand in Greater New York and as the days go by there is less and less cause for complaint on the part of brick and building material men. New York is used to doing things in a big way and the volume of work now in contemplation is no exception. Well over 100 building projects are now out for figures, and contracts aggregating into the millions are being awarded weekly for structures of all kinds. Considering New York State and nearby points in New Jersey, contracts aggregating \$7,963,000 were let during the last week in April. This shows real activity and there is every reason to believe that it will continue with increasing momentum. Considerable residence work will soon be inaugurated, while industrial construction, particularly in the Long Island City district, is coming along in good fashion. Public buildings and municipal work also stand well in the forefront. Construction work has been inaugurated on a large apartment house colony at Avenue H and Ocean Avenue in the Midwood section of Brooklyn; an initial allotment of eight buildings, to accommodate 128 families, will be built at the present time, representing a cost of about \$500,000. The project will be in charge of William E. Harmon & Co., Inc., New York. The Knott Brothers, New York, headed by David H. Knott, have arranged for the construction of a new hotel at Kew Gardens, Queens Borough, to cost about \$600,000. The structure will be four-story, of Colonial brick. The Board of Education, Brooklyn, has awarded contracts to the T. A. Clarke Co., 122 Livingston Street, Brooklyn, for the erection of two new school buildings, No. 80 and No. 100, at West Seventeenth Street and West First Street, respectively, to cost \$259,000 and \$264,000, in order noted.

North Carolina

R. B. Stephens and others of Cerro Gordo, N. C., have formed the Cerro Gordo Brick Co., with a capital stock of \$10,000. Incorporation papers have been issued.

The Climax Clay Co., of which J. A. Smith of Bessemer City, N. C., is president, and which has been formed with a capital stock of \$15,000, will erect a plant to wash clay for pottery and paper manufacturing purposes. A complete equipment of clay washing machinery is to be installed which will also include presses.

Ohio

The Municipal Paving Brick Co. has been incorporated at Portsmouth, Ohio, with a capital of \$10,000, by Simon Labold.

The holdings of the Petersburg Fire Brick & Tile Co., Coal Grove, Ohio, have been purchased by O. J. Deegan, city attorney of Huntington, who announces that he will organize an Ohio corporation to operate the plant.

The Municipal Paving Brick Co., of Portsmouth, Ohio has been chartered with a capital of \$10,000 to manufacture and sell paving block. The incorporators are Simon Labold, W. L. Hitchcock, F. L. Manning, John Peebles and G. E. Carlyle.

The Heidecker Brick Co., of Brecon, Ohio has been

incorporated with a capital of \$15,000 to manufacture brick and drain tile. The incorporators are William J. Heidecker, Tillie Heidecker, Edward C. Hauer, Stella M. Dieringer and Marian Dieringer.

The price of common brick in central Ohio territory continues firm at former levels. There are no declines and dealers are asking \$16 per thousand for shale brick delivered on the job and between \$12 and \$14 for mud brick. The difference in price is brought about by distance of delivery.

At a meeting of the Central Labor Union on April 21, the campaign of the Piqua, Ohio, bricklayers to interest the public in getting a brick manufacturing plant in operation in Piqua, was unanimously endorsed. Joseph J. Welsch, president of the union, with Homer Owens and Kenneth Winans are to appear before the civic meeting of the Chamber of Commerce to solicit its aid and co-operation in furthering this enterprise.

The former plant of the Connors Tile Co., at Rogers, Ohio, and which has been inactive for several years, will soon be placed in operation. Roscoe and Walter Rogers, of Rogers, have taken over the plant, and will make a number of improvements. At one time a small line of sewer pipe was made at this plant, and later some drain tile was manufactured. There is an abundance of clay in this part of Columbiana County for this use.

It is reported that Martin Lingler, Hamilton, Ohio, will erect a tile factory, garage and office building on the site of the Peerless Foundry on East High Street, in the near future. The principal product of the new company formed will be field tile, for which Mr. Lingler claims he will have a large sale. Mr. Lingler will continue his coal business in a new yard erected on the same ground with his new plant.

Building operations in Columbus continue to show activity according to the report of the city building inspector. The report for the month of April shows that the department issued 402 permits having a valuation of \$585,305 as compared with 272 permits and a valuation of \$442,060 for April of last year. During the first four months of the year the department issued 952 permits having a valuation of \$1,561,705 as compared with 638 permits and a valuation of \$1,057,895 for the corresponding period in 1918.

Just when the "Own Your Own Home" campaign, fostered by business and civic organizations was on a fair road to success, a strike of the large majority of the building trade in Columbus, Ohio, was called by the Central Labor Federation, with which many of the unions are affiliated. The trouble started several weeks ago when about 60 employes of the millworkers in the Buckeye capital went on a strike, mostly for recognition of the union. It was a newly organized union and the men wanted to force recognition at once. It was not a question of wages, altho some advance was asked. After the strike had progressed for several weeks pressure was brought to bear on the other trades and they were called out. They included the bricklayers union, the carpenters union, the painters union, the marble and stone workers union and the plasterers union. The order for the strike was not obeyed by all of the unions from the start but later in the day most of the men were ordered to stop work. The union most affected was the bricklayers with about 350 men out. The order will effectually tie up most of the construction work in Columbus.

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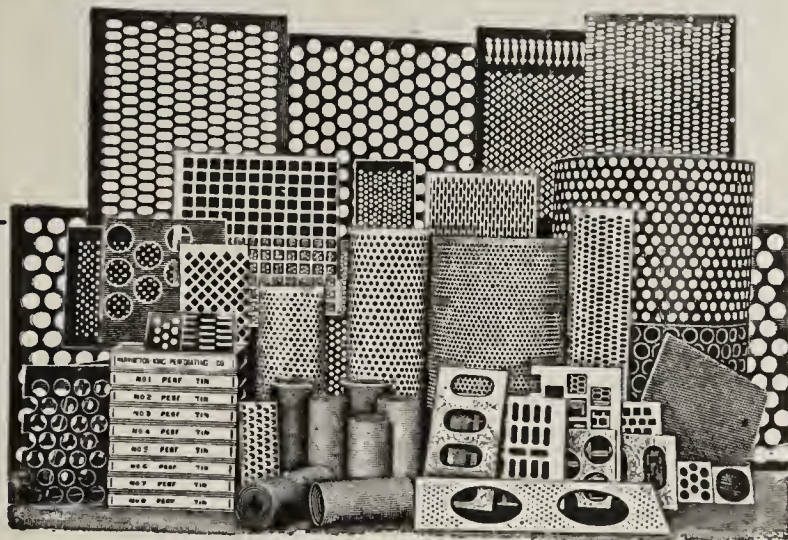
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Durability and Satisfaction

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The flat wire serving about each strand protects the wires from the wear that wrecks them and yet, because of its convex edges, does not lessen the flexibility of the bare rope. The added armor means added life, under the most severe service conditions.

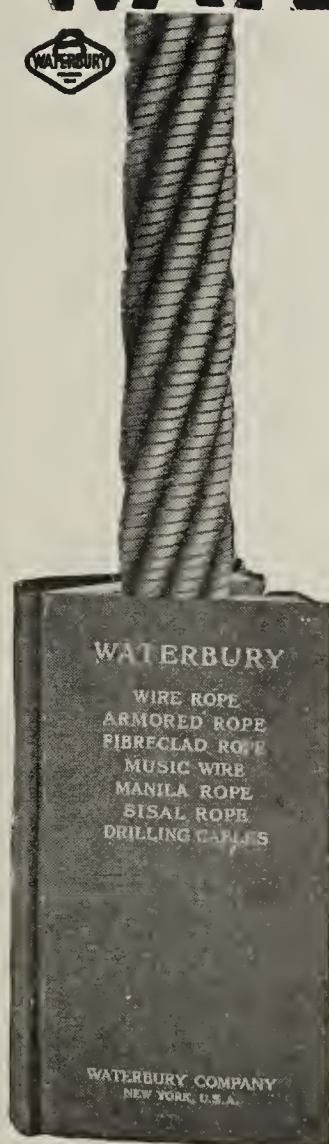
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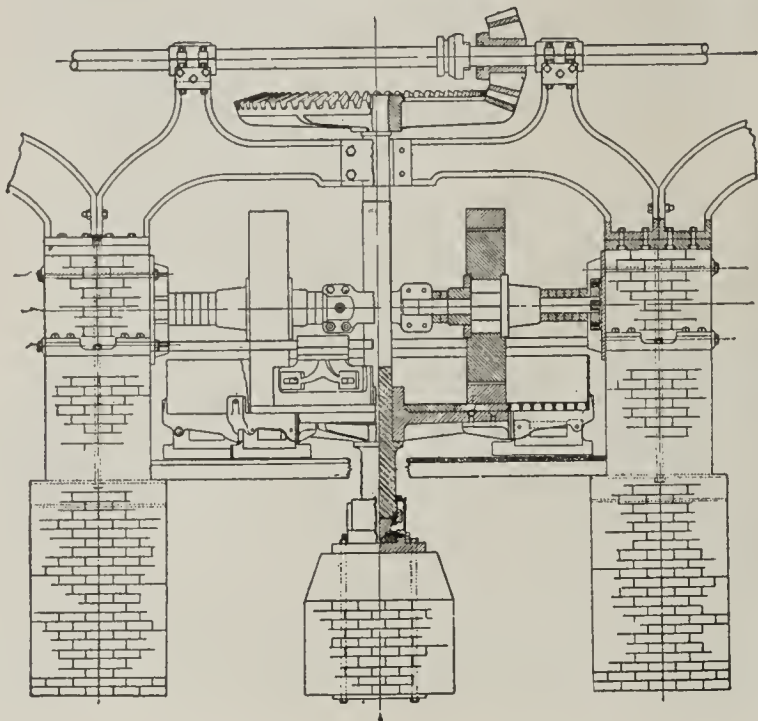


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is being chosen for the reduction of clay and shale by successful claymen because careful comparison with other makes, and records of their performance, show the "Means" to be the best. Special features are the improved step and toe, and adjustable bearings.

In addition to dry pans we manufacture all equipment required in sewer pipe and tile plants, and our special goose-neck attachment for the sewer-pipe press affords a means of making brick directly from the press. Write us.

The Toronto Foundry & Machine Co., Inc.
Toronto, Ohio



Oregon

One of the plans of the newly organized H. H. Dailey Clay Products Co., of Portland, Ore., is to make shipments of pottery clay from Portland to New York by steamer. The company is said to be negotiating with the Commission of the Port of Vancouver for a plant site consisting of 27 acres which lies east of the Vancouver barracks. The clay deposit at Molalla which is owned by this concern is claimed to be among the highest in test of more than 500 other deposits and to equal the imported article from England. The matter of assembling carloads of the deposit at St. Johns municipal terminal has been discussed with representatives of the commission of public docks; also there have been conferences with the Pacific Steamship Co. regarding available bottoms. To construct a Southern Pacific railroad spur to the clay deposit at Molalla, is one of the tentative plans of the company, thereby making it possible to load direct from cars to ship. Besides the shipping activities of the H. H. Dailey Co., it is their intention to establish a plant in that district for the manufacture of pottery articles.

Pennsylvania

The Philadelphia (Pa.) Vitrified Brick Co., with works at Saxton, Pa., has engaged in the manufacture of wire-cut lug paving brick under license contract with the Dunn Wire-Cut Lug Brick Co., Conneaut, Ohio. Charles D. Ames is president and H. T. Hawthorne secretary-treasurer of the company. This makes seventy-five plants in twelve states now making wire-cut lug brick.

The Holly Clay Corporation, Philadelphia, with properties at Mount Holly Springs, Pa., is now giving employment to about 40 men. Production is being maintained at a rate of approximately 20 tons of clay per day, and the bulk of output is being utilized for the paper trade. Considerable new equipment has recently been installed at the plant to increase and facilitate production. The clay is conveyed from the mines to the mills by means of a large pipe line, with incline to allow for a gravity flow.

The Standard Refractories Co., Claysburg, Pa., is now operating ganister properties acquired during the war period in connection with its regular production. The additions made at the plant during this same time will be continued in operation, and as the year advances it is planned to build two extensions, to comprise a machine shop and warehouse building for increased storage facilities. The company recently issued \$500,000 in first mortgage bonds for refunding a previous bond issue and to defray the expenses of the permanent extensions and improvements made at the works.

The construction of apartments and dwellings, many of brick, is holding the center of attraction in building circles at Pittsburgh. The city is in need of housing accommodations and stands in a fair way to make up for lost time with the continuance of activities at the present status. A number of industrial projects have also been inaugurated, including the erection of a new plant for the Pittsburgh Model Engine Co., to cost over \$100,000. The Board of Education, Fulton Building, is having plans prepared for a new three-story and basement brick and steel school on Ruth Street, to cost about \$500,000, comprising an addition to the South Hills High School.

Prices of burned clay and other building materials hold firm in the Philadelphia market, and there is no indica-

101 Questions Answered

A Book for
the Clay-
worker

Bound in cloth and illustrated. It contains more than a hundred problems presented in real plants and solved by the foremost clay-working experts of the U. S. and Canada.

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of live in-
formation that
can be coined in-
to dollars on every
clayworking plant.
Price . . . \$1.50

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Brick and Clay Record
610 Federal St. CHICAGO

tion of any decline worth recording. The bottom, at least for the time being, seems to have been reached and builders are becoming reconciled to existing quotations. Good, hard common brick remains at about \$16 per thousand, delivered on the job; this is a producing center, and the price, arranged on a zone system of haulage charge, seems to be as low as this material will go for some time to come. Hollow building tile is growing more in demand with prices from about \$60 to \$94 and \$95 per thousand. Face brick is beginning to pick up, and good grade material in desirable shades is finding an increasing call.

Catching the spirit of other cities, Philadelphia is commencing to show signs of building activity, particularly in the matter of dwellings and of which the city is in great need. The amount of local construction work for the month of April almost doubles that of March; during this time, 883 building permits were granted with estimated valuation of \$4,180,560. Of this total, 491 permits covered new dwellings, with estimated cost placed at \$2,200,000. The first four months of the present year show an increase of \$2,288,990 over the corresponding period of a year ago. Work now on the boards in the offices of local engineers and architects shows up a number of important projects and indicates that a busy spring may be anticipated. Construction has been inaugurated on a new institution for the Babies Hospital, to be located at 300-19 South Seventeenth Street; the structure will be six-story and is estimated to cost \$200,000. The Pennsylvania State Board of Health, 1900 Race Street, is taking bids for a new sanitarium building to be located at Mont Alto, Pa., with cost estimated at \$300,000. The United States Shipping Board is considering plans for the erection of a number of new local warehouses for increased shipping and storage facilities to cost close to \$1,000,000.

South Dakota

The plant of the Yankton (S. Dak.) Brick & Tile Co. was sold on May 3 to Howard Yelgerhaus and D. Sternburg, of Orange City, Ia. Mr. Sternberg has taken possession and expects to open the plant shortly.

Texas

Henry Wagner, Jr. and Fred Adebahr bought the property, including real estate, brick plant proper, machinery, fixtures, wagons and mules, of the Bem Brick Co., southeast of San Antonio, Tex., on May 8, paying the sum of \$25,000 therefor.

According to recent reports, a company is being formed at Bridgeport, Texas, to establish and operate a brick, electric light and ice plant. Harry Hardy has been made superintendent of the old brick and light plant and is now engaged in overhauling the machinery. It is stated the brick plant has more orders than it can fill.

Vermont

The Drury Brick & Tile Co. resumed operations at its plant at Essex Junction, Vt., on May 1. A crew of forty men is employed by the company. The stock carried over from last year has been practically exhausted and the company is looking forward to a prosperous season and plans a big output.

West Virginia

The Granite Clay Products Co., North Mountain, W. Va., according to Manager Elmer W. McClave, ex-

(Continued on Page 914)



The Service Belt—

A brain and brawn combination that makes things hum — that's me, "On-the-Job" GANDY, the orig-

inal stitched cotton duck belt.

I'm made to give, inch for inch, the kind of service that only first-class materials, constructive skill and the GANDY secret process of seasoning can put into a belt—

And the engineering department back of me, guarantees perfect adjustability to every requirement of belt-users—and that I give to each "top notch" service.

Are you getting that from your present equipment?

If not, come to us with your power and conveyor problems. We can end them with GANDY belting plus GANDY engineering service—and we're ready to do it now!

"On-the-Job" GANDY

The Gandy Belting Co.

732 W. Pratt Street Baltimore, Md.

New York Branch: 36 Warren St.

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"The S S S Special" Automatic Soft Mud Brick Machine



The "S S S Special" is the ONLY Automatic Soft Mud Brick Machine. It is Brick Machine, Bumper, Dumper, and Sander, all combined in one Great Machine.

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**The "S S S Special" means
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**A Three Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost**

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Instruments to Test Power Used

908. *Pennsylvania—Are there any instruments on the market by which you can gauge the amount of electrical power being used by individual machines on a brick plant? Suppose a man feeding a dry pan which under normal conditions would require power equivalent to twenty-five horsepower, should overcrowd it or permit the discharge chute to become choked, it would require more power to drive the pan. If you had a registering gauge on that pan you could easily check this man up and explain how much better it would be to feed the pan steadily. If you know of any such instrument I shall be pleased to have you tell me where I might obtain same.*

It is quite possible that the General Electric Co. or the Westinghouse Electric Co. could supply our correspondent with such machines or give him some information concerning this matter. Undoubtedly, the Bureau of Standards could also help him in this direction. If any of our readers can enlighten our correspondent on this question we will be glad to hear from them.

✂ ✂ ✂

Relative Costs of Oil and Coal as Fuel

907. *Oklahoma—We are on a deal for a brick plant that is equipped to burn oil in its kilns. Oil costs \$2.25 a barrel f. o. b. plant and coal costs \$4.50 a ton f. o. b. plant. From the standpoint of relative heating values of the two fuels what is the difference in cost? We would be glad to have you give us some information concerning these two fuels.*

Inasmuch as you do not give us the relative heating values of the coal and oil you have in mind, we will have to make certain assumptions as to the thermal capacities of these two fuels. The calculations given below are based on oil costing \$2.25 a barrel, having a heat value of 20,000 B. t. u. per pound, and one barrel containing 310 pounds of oil. Government figures show that an Oklahoma mine run coal analyzes about 13,000 B. t. u. per pound hence this figure is used in the calculations also. The coal costs \$4.50 per ton.

Using the above figures it will be seen that 20,000 times 310 will give you the number of B. t. u. in a barrel of oil and this quantity divided by 225 will give the number of B. t. u. received for one cent by using oil of the above quality and price. This value will be found to equal approximately 28,000 British thermal units for one cent.

Now by taking the data on coal we find that 13,000 times 2,000 will give you the number of B. t. u. in a ton of coal and this divided by 450 will give you the number of B. t. u. received for one cent by using coal under the conditions given above. This is equal to approximately 60,000 British thermal units for one cent. From a comparison of these

a n d ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

two values it will be seen that you will be getting about twice as much heat for the same cost by using coal instead of oil. That is, the ratio is 60,000 to 28,000 in favor of coal considered from a standpoint of heat received for an equal expenditure of money.

There are, however, several advantages in using oil for burning clay products. There is no cleaning of fires, no handling of fuel, no removal of ashes, and no soot and dust. It has been found possible on some plants by installing the oil system of burning to reduce the number of men in the ratio of seven to two.

Oil can be stored in fifty per cent. of the space required for coal and ten per cent. of the space required for cord wood of equal heating value. The ease and quickness of oil burning over that of coal and wood gives a possibility of more even control of temperature. Due to a more equal control of heat in each fire box, there seems to be no localization of intense heat in one spot.

Due to the easy control of the burners, oxidizing and reducing conditions in the kiln can be produced at will, and changes from one condition to the other can be obtained on shorter intervals than with coal.

✕ ✕ ✕

Cannot Get Heat to Bottom of Kiln

906. *Iowa—Can you tell me how to get good results on the bottom rows of drain tile set in Hook down-draft kilns? We find that we get the top rows too hard while the lower two or three rows remain too soft for the amount of fuel expended. The upper portion of the drain tile setting will burn to a cherry red in about twenty-four to thirty hours while the bottom will still be soft after thirty-six hours of burning.*

Your trouble in burning seems to be mainly a question of manipulating the draft in your kilns so as to obtain an even temperature thruout the whole kiln. In order to get the heat to the bottom of a down-draft kiln we strongly advise the proper manipulation of the dampers.

Watersmoking may be carried on with open dampers and all the draft it is possible to get. The kiln should then be heated up until a good red color can be observed thru the upper peepholes, still keeping the dampers open. The dampers should then be closed so that the circulation of air in the kiln is very nearly at a standstill. It can easily be determined when this stage has been reached by observing whether there is any movement of air thru the upper peepholes. Then, every three hours open the dampers again for a period of about one hour to bring up the heat. The firing during the periods between the opening of the dampers must not be quite as heavy as when the dampers are open. When the proper temperature is reached, burn the kiln for several



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 610 Federal Street, Chicago, Ill.

hours with an oxidizing flame to remove the smoke color on the ware.

Following the above procedure exactly, may not give you the desired results since there is no prescription which will suit all conditions. However, by using the above procedure as a guide and with a little experimenting, we believe you will be able to bottle up the heat in your kilns so as to get more uniform burns.

WAKE OF THE NEWS

(Continued from Page 911)

pect to make brick in two weeks. Their product is a red rough texture brick. Improvements to the kilns have recently been completed.

Fire of unknown origin caused a loss estimated at \$40,000 to the plant of the Parkersburg (W. Va.) Shale Brick Co., and the practical destruction of the property. All of the fire fighting apparatus of Parkersburg was in service during the fire, but only the general offices and the machine shop were saved thru this effort. Storage sheds where thousands of brick were stored were destroyed, also considerable of the stock therein. Water did considerable damage to the dryers. The firm is one of the oldest brick manufacturing corporations in the state, and its operations were just commencing to round into normal production in order to meet the demands of increased building activity in that part of the state.

Wyoming

Engineers are at work on the plans for the new tile plant for Lovell, Wyo. The plant will be run by the Big Horn Clay Products Co. Lines are being run for the ground plans of the building, preliminary sketches have been made, and arrangements are now under way for the necessary trackage facilities.

The Sheridan (Wyo.) Press Brick & Tile Co. recently received a large order for its product from Hardin, Montana builders. Manager Carl F. Kneisel has just returned from Hardin and states much construction work is in progress there. Carpenters, masons and unskilled labor are finding ready employment.

The Cheyenne (Wyo.) Brick Co., F. A. Roedel, general manager, reports a ready sale for its common brick, at \$15 to \$18 at the yard. This stock company, representing an investment of \$40,000, consisting of a few acres of ground, buildings and equipment, manufactures dry press brick, with a capacity of 18 M per day. The concern is supplying a large market, having an advantage in freight rates. All of its clay is shipped from Colorado, some twenty miles away. Thru the winter the company was considerably handicapped with wet clay, having no storage sheds, but they now expect to move their switch and build a large shed for storing the clay, this summer, so that operations may continue well into the winter. S. S. Allsman, superintendent, is busy now making repairs at the plant and overhauling the dry pan.

Kaolin Used for German Soap Manufacture

An analysis of a cake of German toilet soap recently purchased, showed that it contained about 71 per cent. kaolin, 16 per cent. moisture, with the balance soap. The material showed good cleansing qualities, but produced little lather. The soap seemed better suited to metal cleansing than for toilet utility.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

New Publication

"Over 1,000 Scoop Conveyors" is the title of a 20-page folder just published by the Portable Machinery Co., Passaic, N. J. This folder, replete with illustrations showing the various uses of the Scoop Conveyor, describes clearly the labor, time and money saving features of the machine in storing, reclaiming, loading and unloading material such as brick, tile, coal, coke, ashes, sand, gravel, crushed stone, fertilizer, cement, chemicals, etc. Thirty-two letters from users are printed testifying to the merits of the machine and eighty-four letterheads representing additional concerns who have written commendatory letters are reproduced.

Copies of the folder will be sent gratis, to those interested, upon request to the manufacturers, The Portable Machinery Co., Passaic, N. J.

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Underwood's Furnace Gas Producer

Everybody in the Clay Products Industry knows, either personally or by reputation, J. T. Underwood of Dayton, Ohio. He is the inventor of the Underwood Gas-Producer System, but has more recently left that organization, and is now general manager of the Furnace Gas-Producer Co. of 736 N. Summit St., Dayton, Ohio.

This new company has brought out a practical device that saves time, fuel and labor by converting the ordinary kiln fire box into an individual miniature producer—thus eliminating the usual large tunnels and large producer units of other systems.

Some of the other superior points claimed for this new system are that the Furnace-Gas Producer does not require



JOHN T. UNDERWOOD,
Manager, Furnace Gas-Producer Co.

BUCKEYE'S Help-Sell Tile

Progressive tile men are increasing their markets by doing the trench digging on farms with a BUCKEYE TRENCH DIGGING MACHINE. In some instances they have sold a third or a half interest to an experienced operator, who runs the machine as though it were his own business.

Satisfied users of these machines tell us that farmers put in more tile when a machine is available.

Ask the farmers in your locality how well they prefer a BUCKEYE for drainage ditch digging. A machine job is finished before hand labor could get started. Machine grades are maintained with almost instrumental accuracy. And the net cost of BUCKEYE operation is less than hand labor. You can make profit on the digging and profit on the tile.

We have facts and figures.
Write for them.

**The Buckeye
Traction Ditcher Co.
Findlay, Ohio**





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EVERY Kissel Truck represents eleven years of truck experience and experiments—investigations and tests—with never a failure—and the first Kissel Truck still in active service.

Such trucking efficiency calls for unlimited hill-climbing power, speed ability on good roads, wear-ability on bad roads, emergency capacity, rapidity of loading and unloading, ease of operating and driving in traffic zones, at low upkeep. These truck requisites—that result in uninterrupted transportation—are built into Kissel Trucks and are absolutely necessary to solve the unusual transportation problems which owners in the Brick and Clay industry have been called upon to face.

Purchase motor trucks as you purchase any other part of your equipment. You will find it's good business practice from every standpoint.

Kissel Truck Dealers are in every principal city. Literature on request.

Kissel Motor Car Company
Hartford, Wisconsin, U. S. A.

**KISSEL
TRUCKS**

expensive burners, burns low grade of coal, eliminates the loss of carbon in the ash pit, eliminates smoke, makes explosions impossible, has no tunnels to burn out, is simple in construction and produces better product than direct burning.

The Furnace Gas-Producer can be applied to kilns that are already built and this is done at a very low cost. The system can be made to operate as a regular furnace or as a producer according to the will of the operator. Continuous burning is assured.

Another very important feature is that sewer pipe and other glazed ware can be salt glazed with much greater ease than is possible with the old method.

Any clay products manufacturer can get full details and information relative to this equipment by writing to the Furnace Gas-Producer Co. at the address given above.

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Success of the Schaffer Poidometer in the Clay Industry

A piece of apparatus which is especially suited to the requirements of the clay products manufacturer is the Schaffer Poidometer. This machine while installed in a wide variety of industries, is probably more nearly indispensable to the clayworker than to any other manufacturer, because of its liquid measure attachment. At the present time the labor shortage is serious and indications do not point to any great surplus of labor. A pug-mill operator in a clay plant is a hard man to keep on the job. The Schaffer Poidometer dispenses entirely with the service of a pug-mill operator, delivering the ground clay or shale to the mill in a pre-determined amount by weight and adding the water thereto synchronously.

Aside from the great advantage of a saving in labor by means of this machine, an absolute uniformity of the clay column is secured. Consequently the column being uniform thruout, the cut ware goes to the drier containing an uniform amount of moisture. This greatly lessens cracking and waste thru other sources.

Where two or more colors are to be added together, a battery of poidometers will accomplish this to an extent that the mixture is tempered uniformly thruout which will prevent such a wide variety of color in the kilns as now occur on many plants. In fact many clayworkers would do well to mine separately from the pit every different strata of clay, and deliver them, by means of a battery of poidometers to the pug-mill in the proportions necessary for the best results.

The Schaffer Engineering & Equipment Co., Peoples Bank Building, Pittsburgh, Pa., have had a wide experience in clayworking lines and can discuss the individual requirements of each case intelligently with any prospective purchaser.

Classified, cont. from pages 935-936

FOR SALE—One Chambers Brothers stiff-mud brick machine, 50,000 capacity. Price, 25% of original cost. Address: 52-Chambers, care of "Brick and Clay Record." 5-2-TF

FOR SALE—Because our property has been sold for City lots, we are offering one Frey-Sheckler Bucyrus Giant Machine and full equipment for making hollow tile, flat arches, and farm drain tile, all in good working order. Also pine pallets 32 in. long in carload lots at \$30.00 per thousand. Rochester Brick & Tile Mfg. Co., Rochester, N. Y. 5-2-2

Practically new—One 14-B BUCYRUS STEAM SHOVEL, No. 2173, on caterpillars. Price \$6,500.00, f.o.b. Sulphur Mine, La. The Union Sulphur Co., Sulphur, La. 5-2-4

FOR SALE—C. W. Raymond Combination No. 1 brick machine, \$600. Freese C-16 automatic side-cutter, \$400. Steel hoist No. 2, \$75. Steele friction clutch clay conveyor, length 30 ft., 16-inch rubber belt, \$160. 3 Steele spring brick trucks, \$54. Belts, Pulleys, Tools. Description and price list upon request. Prices F.O.B. Tuscaloosa, Alabama. Address: T. H. McMichael, Alton, Ala. 5-2-3

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The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.



1914-1919

Five Generations Crowded Into Five Years

In change of conditions the gap that divides 1919 from 1914 is as great as the gap that divides the Twentieth Century from the Eighteenth.

The man who looks to a return of the conditions of 1914 in adjusting business or social relations is as sadly out of joint as if he looked to a return of the conditions of 1800.

Think of the things this short five years have witnessed!

Machines loaded with men and cargoes fly through the air for long distances at the rate of a hundred miles an hour. Ships travel under the seas at speeds that rival the fastest sailing vessels of a hundred years ago. Men on the surface of the earth talk through wireless telephones to men flying a mile in air.

Great tonnage of freight is moved by trucks over open roads for greater distances and at higher speeds than were achieved by our early railroads.

Ships that required years for construction are built in a month. Time of production for commodities of all kinds has been cut and cut again. Processes of manufacture have been revolutionized.

America has passed from a debtor nation, owing billions, to a creditor nation, lending billions. Thirty thousand security holders in America have expanded into thirty million.

The impossibilities of sixty months ago have become common occurrences.

Financially, commercially, socially, the world has been turned upside down.

We are in a new world. The past and its conditions have gone never to return. We are living in a new era. It's time we realized it.

If you have something to sell—go ahead and sell it. If you need anything—go ahead and buy it. You will not be able to either buy or sell at the price level of five years ago. Stop thinking about it. Do business.

Let's Go!

POST THIS IN YOUR WINDOW!

Design Specially Drawn for Brick and Clay Record—Text Suggested By National Prosperity League.

The EDITOR'S CORNER

This Is Your Chance

AN ARTICLE in the April 1919 issue of "Building Supplies," the official publication of the New York State Builders' Supply Association, an organization of dealers, reveals a state of mind at least of a certain group of retailers of which every clay products manufacturer should be fully aware. The article or editorial is entitled, "Why Sell Cement?" We print it below. The capital letters are ours.

The building supply business for some unknown idea seems based upon the idea that, to be successful, cement must be sold, must be urged, and, in fact, is so necessary that once a client acquaints Mr. Building Supply Salesman with the fact that he is going to build, said salesman begins and finishes the sale with cement.

Cement manufacturers believe this to such an extent that they, relying upon its hypnotic effect, have deceived themselves into a condition of "you can't do business without cement."

Cement manufacturers have no idea of the cost of handling their commodity after it leaves their mills, and have absolutely no reason to know or care whether or not it pays a dealer to handle cement; in fact, why should they as long as Mr. Dealer insists on handling it for nothing or less? They would be using poor business judgment if they did as long as the dealer is a philanthropist in business.

It has been refreshing of late to the Secretary in making a canvass of materials handled by dealers to find many answering the inquiry of "Do you handle cement, and if so, what brands?" to find written on that blank line "None, for which we are thankful." A further poll of inquiries on costs shows the very interesting fact that no dealer in the state has ever made a profit selling cement, in fact, most dealers admit that they handle cement at a loss.

Why then do this? Fireproof buildings, sanitary buildings, all types of buildings can be erected with at least a minimum use of cement, and by the erection of such buildings all dealers can make far more real money in the selling of lime, BRICK, metal lath, plaster and a hundred kindred lines than by urging cement at no profit at all. The larger building supply firms of the state today carry engineers on their sales forces, and it is an easy task when talking to friend architect not to talk reinforced concrete but a building of shade and tones BUILT OF BRICK and steel, and

in such a building see real money and friends rather than enemies and a loss.

This also extends to pavements, curbs and all construction, as in all towns the dealer is an authority to his architects, engineers and fellow citizens.

We admit that if the cement manufacturer were of broad vision, were looking for the big future of the cement industry, he would familiarize himself with trade conditions and as a result of his investigation would begin to widen his horizon of the business, and by thus knowing this wonderful product from its very inception to its conclusion in the everlasting monuments which great business men erect in this wonderful world of ours, would see wonderful possibilities.

Continued results of this investigation would cause the reduction to a minimum of his unwarranted selling overhead and by the establishment of hundreds of dealers' goodwill he would gain that many enthusiastic boosters. As long as he views with suspicion his competitor and his methods, we hold it is high time for any and all dealers to know their friends, know good business that pays them a real profit, quit boosting the game which says "you reduce your already small profit and be satisfied while we hold ours."

Boys, it's time you took good counsel with yourself and your business, know when to refuse an order, and in cold business parlance work for that only which pays you most, and our guess will be that it will not be cement. Think it over.

We are not in a mood to "rap" cement. This is not the intention of reproducing the above article. What we see in it, however, is something entirely foreign to disparaging aspersions. We are looking at this editorial, taken from the organ of a building supply dealers' association, with the eyes of the sales manager. We see therein an opportunity to win a warm place in the hearts of at least the building material retailers of New York State. It is up to the clay products manufacturer to grasp the opportunity that has thus been offered. The brickmaker that does not step into the opening that has been made for him in the Empire State is simply throwing away his chance to develop some good business.

If the building supply dealers in New York State are dissatisfied with the treatment which has been accorded to them by the portland cement manufacturers, it is logical to assume that dealers in other states are similarly dissatisfied. How far this condition exists at the present time we are unable to know. However, this we do know, that it will pay the clay products manufacturer to pay more attention to the

material retailer as an important factor in his scheme of distribution, especially since the large associations, the Common Brick Manufacturers' Association of America, the American Face Brick Association, Hollow Building Tile Association, the Clay Products Association, and other clay organizations are either actually working on a national advertising campaign or are seriously considering same.

* * *

Investigating Committees Report

THE OPEN SEASON for legislative investigating committees in the building material world seems about drawing to a close. Some of these committees have made final reports while others, of which we have heard varying rumors, seem to have quietly withdrawn from the scene of action.

Attention is called on another page of this issue to a story entitled "Illinois Price Investigation Committee Issues Formal Report." The recommendation made by this committee to the building public of Illinois, as quoted in the above article is certainly well worth reading. This recommendation winds up by urging "Buy Now, Build Now."

The report of a Cincinnati committee has also come to our attention. This document states in part: "The time to build is now. The cost of material and of labor seems to be as low as it is likely to be for several years. Wages likely will go up, consequently there is little chance of a material reduction below the present prices of building." This statement was issued April 24 by Mayor Galvin, of Cincinnati, after he had received the report of the special committee appointed by him several weeks ago to ascertain the probability of a reduction in the cost of material and labor to stimulate building in Cincinnati.

With the collapse of the price stabilization program in Washington and the disbanding of Mr. Peek's commission, as well as the completion on the part of the investigating committees of their work by the submission of their reports, it is apparent that conditions in the building material field are fast approaching normal.

* * *

Advise Buying Coal Now

EXPERTS who have been studying the coal situation from an unprejudiced standpoint are urging manufacturers to place contracts for coal now for at least several months in advance. It is pointed out that coal production costs are still high with the output one-fourth less than a year ago. It is said that right now there are only eight billion tons of bituminous coal being mined, while last year at this time eleven billion tons a week were being produced.

For those who are interested in the anthracite coal market, the figures are even more startling. The weekly output is now averaging only a little over one million tons as compared with a necessary output of two million tons weekly.

Since the export trade in coal is not a very important factor, being only about twenty million tons, on an average, of bituminous coal yearly, and between four and five million tons of anthracite coal yearly, clay products manufacturers need not fear great inroads upon the year's supply from that source. It is our domestic consumption that demands most attention. This will probably average at least 450,000,000 tons of bituminous coal this year and not less than 75,000,000 tons of anthracite. However, records show that we have only produced 110,000,000 tons of bituminous coal up to April 1 of this year. Even if this output were maintained for the remainder of 1919 the output at best would be only 440,000,000 tons—10,000,000 tons short of the estimated required amount.

While it is hardly possible that there will be a shortage of coal before the year is ended, it does seem advisable to contract now for several months' supply at the best price obtainable.

* * *

Clayworking Statistics for 1917

THE MUCH BELATED REPORT covering the clayworking industries and building operations in the larger cities during 1917, published by the United States Geological Survey, has finally reached our desk. This report carries as the date of its publication May 12, 1919. Undoubtedly the war has had a great deal to do with the delaying of these important statistics but our experience during pre-war times brings to mind the fact that this report is always late in making its appearance. At the present writing we are nearly a year and a half behind the game. It is a pity that these important statistics are not available with more promptness.

The document states:

"The year 1917 was one of unusual conditions in the clayworking industries. In spite of strikes, scarcity of labor and raw materials, and unfavorable transportation conditions, which caused a marked decrease in the quantity of most clay products sold, the value of the output was much greater than in any preceding year. In the industries concerned with structural clay products the year opened with prospects of unusual activity, but the declaration of war early in April and the restriction of building to Governmental and essential war industries necessarily had the effect of reducing the demand for clay products, so that the total value of the business for the year was only a little more than in 1916. The refractory products, which were used largely in the war indus-

tries, were in great demand and showed the largest increase—\$28,541,262, or 77 per cent. The adverse business conditions of the year imposed unusual hardships on the pottery industry, but nevertheless it made considerable progress. The volume of business done was not so large as in some former years, but the

value of output was the largest ever recorded, and progress was made both in the quality of ware and in the development of labor and fuel-saving devices in order to meet after-war competition."

A copy of this report may be had by applying to the U. S. Geological Survey, Washington, D. C.



ILLINOIS PRICE INVESTIGATION COMMITTEE ISSUES FORMAL REPORT

THE JOINT COMMITTEE from the Illinois State Legislature which has been investigating prices at hearings in Chicago, has issued a report of its findings. Mention of the activities of this committee was made in the May 6 issue of *Brick and Clay Record*.

DIG DEEP IN COMMON BRICK PROBE

"Very extensive investigations of the cost of the manufacture of common building brick were made by the commission," says the report. "We subjected manufacturers to the most rigid examinations as to the cost of the manufacture of the product. The brick manufacturers furnished the Commission with all data, books, accounts, reports and calculations asked for. In addition they furnished, upon request, manufacturers' cost sheets and audits of certified accountants for the years 1912, 1913, 1916, 1917 and 1918 for the information of the Commission and for comparative purposes. Estimates of the cost of manufacture for the year 1919 were also submitted. These documents have been carefully studied by the Commission. Being one of the industries whose production was repressed by the Government during the war for the purpose of conserving fuel, the brick industry suffered exceedingly great losses for the years 1917 and 1918. An examination of the audits of the company made by reputable certified accountants in the usual course of business for these years show, beyond question, that these losses were sustained. The principal elements entering into the cost of manufacturing brick are labor, freight and hauling and fuel. These items comprise nearly eighty per cent. of the cost of manufacture. The year 1916 was a favorable year for the brick industry. In 1919 labor constituting about thirty-five per cent. of the manufacturing cost has increased thirty-five per cent. over the year 1916. Freight and delivery to job constituting about twenty-five per cent. of the cost of manufacture has increased from 1916 to 1919 about two hundred per cent. on freight and thirty-five per cent. for delivery. Fuel constituting about twenty per cent. of the cost of manufacture has been increased from 1916 to 1919 about one hundred per cent. We have been informed by the brick manufacturers that brick cannot be sold for less than \$12 per thousand in Chicago, delivered on the job, without depriving the manufacturer of a reasonable profit. This we are not prepared to dispute. It is obvious with overhead expenses remaining practically the same with a small or large production, that operating at full capacity would insure a lower price than would result if there was a limited production of brick. The Commission has been unable to establish by evidence, that any illegal combinations exist to regulate the price of common building brick. For a limited

time during the war the Government permitted agreements of brick manufacturers to be made, establishing prices. The agency for this purpose, created with the Government's sanction, has ceased to exist. The Chicago price of \$12 per thousand is the lowest price obtaining anywhere in the United States. The only assurance we can give the public is that, with practically capacity production, there may be a slightly lower price for common building brick. The price for Chicago common building brick was established by the Federal Trade Commission at \$12 per thousand."

PAVING BRICK AT A MINIMUM

The Committee found no evidence of a combination of paving brick manufacturers.

"Competition between the paving brick and cement manufacturer," according to the report of the Committee, "has resulted in a price for paving brick at a point as low as paving brick can be sold at a reasonable profit. Three paving brick manufacturers of this state have offered to lease their plants to the state at an annual rental of six per cent. on the fair cash value of their plant investment, or to contract their output to the state at actual cost plus a reasonable profit."

After admitting that America is operating on a new price level which is much above that of the pre-war period, and after commenting in detail upon the subjects of labor, freight and fuel, the committee makes the following recommendations to the public:

ADVISES PUBLIC NOT TO DELAY

"In view of the opinions expressed in this report, we believe it to be our duty as public officials to advise the public not to delay building projects in the hope that prices will come down materially. We do not believe they will. We deem it the part of wisdom to accept present conditions as normal and that building operations should be based upon that principle. With labor unemployed, with our returning soldiers seeking employment, with plants operating at great losses, owing to limited outputs, with necessary public and private improvements long delayed, there is serious danger of widespread business depression. All contemplated buildings, homes, and improvements should be started now. Reconstruction can only be accomplished in its real sense by every citizen subscribing to the doctrine, 'Buy Now, Build Now.'"



Bids are wanted by the General Purchasing Officer, The Panama Canal, Washington, D. C., for numerous articles, including fire brick and vitrified sewer pipe.

CANADIANS ENJOY PLEASANT *and* PROFITABLE MEETING *at* MONTREAL

Local Committee Shows Guests a Good Time—Papers Read at Sessions Were Excellent—William Burgess Elected President—Ladies a Feature of the Gathering While a Number of Guests from England Were Present as Well as a Large Delegation from the States

MEETING FOR THE FIRST TIME outside of the Province of Ontario, The Canadian National Clay Products Association attracted a fair sized delegation of men from Canada, United States, and even England, to its seventeenth annual convention which was held in Montreal, on Monday, Tuesday and Wednesday, May 26, 27, and 28. Besides being the first meeting held outside of Ontario, it also broke another precedent in that it was held later in the year, instead of in January as all previous meetings have been. Several ladies also attended the side trips of the convention.

Headquarters for the delegates was the Windsor Hotel while the sessions were held in the Builders' Exchange rooms in the Drummond Building. Weather was ideal during the meeting but owing to the fact that the clay products manufacturing season is already in its swing and that labor unrest exists in some parts of the Dominion, the attendance was not as large as was hoped for. This was the only disappointing feature of the event. However, this was more than made up for, by the feeling of good fellowship that was so prevalent at the meeting and everyone became a component part of one family not too large but that all knew each other by name.

W. T. GAGNON MAKES ADDRESS OF WELCOME

Owing to some unforeseen circumstances, Mayor Martin of Montreal, was unable to be present to welcome the visi-



Group on Top of Mount Royal Admiring the View of Montreal and Surrounding Country.

tors to the City, but the address of welcome was very ably given by W. T. Gagnon, one of the members of the entertainment committee who with L. W. McArthur, Her-

tor Desjardins, T. A. Alexander and A. Robinson did much to make this meeting a very enjoyable one. The response was given by Ryland H. New of Hamilton, Ontario.

Thomas Kennedy of Swansea, Ontario, the congenial president of the association, in his address gave an outline of conditions in the industry and the active part the mem-



The Delegation Just Before Lunching at Casino on Mount Royal—Each With a "Brick and Clay Record" Cane

bers of the various plants took in the war. He also said, "Today, there is a very general feeling that we are entering upon a period of great prosperity, that once the Peace Treaty is concluded and the labor question settled, that Canada and the United States will both go forward with a bound, that the demand for equipment, materials and manufactured goods will exceed anything that we have heretofore known, that there will be a large amount of Federal, Provincial and Municipal and other large works; all of which will create a great demand for clay products." He further mentioned the fact that there has been a great deal said as to the inability of the returned men to settle down, but on comparing experiences among quite a number of the manufacturers, the report is, that while returned men taken on, at work new to them, may not have taken hold, that the old employees returning to their positions have almost invariably settled down at once.

"I am very sorry," Mr. Kennedy said, "to have to announce the death of Professor W. H. Scott, B. A. of the Ontario Agricultural College. Professor Scott has been a regular attendant at our conventions for several years past and at our last convention gave a very interesting paper.

Gordon C. Keith, the energetic secretary, reported on several phases of the association's business, including the work

of the executive committee, treasurer's report, other matters and also gave the report of the Technical Education Committee and Tile Committee, instead of M. F. Gibson and H. H. Hallatt, respectively, who were unable to be present.



Casino at Top of Mount Royal Where the Delegation Lunched on Tuesday as Guests of the Montreal Clay Products Manufacturers.

At this point Sidney Higgins, of the Higgins & Sons Co., Ltd. of Manchester, England, who is in this country to study the brick and hollow tile plants, was introduced. He spoke a few words on the conditions in England, and was glad to say that the manufacturers have organized and are pulling together now and because of this are able to handle labor better as well as obtaining a fairer price for their brick.

The first paper on the program was read by W. H. Grant, of the Elk Fire Brick Co., Hamilton and Buffalo. In reading his paper on "The Use Of Fire Brick In The Steel and Clay Products Industries," he urged that users specify the purpose for which they desire to use the fire brick, so that the manufacturers could send them the proper quality and in many instances save them money. There are cases where a No. 2 or poorer grade of brick would give the same service as a more expensive brick. A. F. Greaves-Walker followed with a discussion on the above subject and besides corroborating Mr. Grant's words, pointed out places in kiln construction where money might be saved by using the cheaper grade of brick.

An interesting talk on roads and paving brick was given by Will P. Blair, of Cleveland, vice-president of the National Paving Brick Manufacturers Association. His main point in regard to road construction was to put in proper drainage facilities.

L. Haigh's paper on "Machinery and Dryers For Large Size Tile" was heard with interest, as was the paper on "Brick Tests and Investigations," prepared by W. W. Pearse, City Architect, Toronto, and read by G. C. Keith.

The day was concluded by a theatre party at the Princess Theatre, in the evening, where an unusually good show was enjoyed.

NEW OFFICERS ELECTED FOR ENSUING YEAR

At the first session on Tuesday morning, the officers for the ensuing year were elected. These include:

Executives

Past President—Thomas Kennedy, Swansea, Ont.

President—Wm. Burgess, Todmorden, Ont.

1st Vice-President—Ryland H. New, Hamilton, Ont.

2nd Vice-President—Millard F. Gibson, Toronto, Ont.

3rd Vice-President—T. H. Graham, Inglewood, Ont.

Secretary-Treasurer—G. C. Keith, Toronto, Ont.

Councillors—Andrew Dods, Mimico, Ont., J. S. McCannell, Milton, Ont., F. B. McFarren, Toronto, Ont., C. B.

Lewis, Toronto, Ont., W. H. Freeborn, Brantford, Ont., W. T. Gagnon, Montreal, Que., H. H. Hallatt, Tillbury, Ont.

Chairman of Entertainment Committee—C. A. Millar.

Technical Committee—M. F. Gibson.

Tile Committee—H. H. Hallatt.

Two papers which were scheduled to follow the order of the program, were not presented, owing to the absence of the authors. "Burning of Carbonaceous Clays," a manuscript prepared by Joseph Keele, B.Sc., chief engineer, Ceramic Department, Mines Branch, Ottawa, was presented by one of the other delegates present at the convention. The meeting adjourned early on Tuesday morning, so that the members could assemble at the hotel in time to be taken up to the mountain by "hansoms" where they were treated to a splendid luncheon tendered by the Montreal Entertainment Committee. A feature of the dinner was the speechmaking of various men present and the presentation of Canadian flags to all of the American visitors. The party enjoyed a most wonderful view of Montreal and the St. Lawrence River, from the top of the mountain. The ride up and down the paths which wind in and around the mountain was also a treat.



Three of the Ladies Present at the Convention Who Helped to Make Things Interesting.

The delegation returned to the city in time for a short session, at which were read a paper on "Steam Shovel Practice" prepared by William Burgess, of the Don Valley Brick Works, Toronto, Ont., but read by another member

in his absence and also one on "Motor Trucks in the Clay Products Business" as well as one on "Sewer Pipe Investigations."

INTERESTING TALKS FEATURE BANQUET

At seven in the evening the annual banquet was held at the Queen's Hotel. J. C. Broderick, acted as toastmaster. The guests listened to a speech by Mr. Dixon, an alderman of Montreal. Other speakers were W. P. Blair, and M. P. Fennell, a harbor commissioner of Montreal, who revealed some interesting information concerning the immense and remarkable harbor of Montreal. The commissioners operate ninety-five miles of belt railway lines along the harbor which extends for several miles.

Frank R. McCannell was very much caught by surprise when he noticed that he was on the program but came across in very good style. A. F. Greaves-Walker responded to Mr. McCannell's address, following which LeRoy W. Allison, eastern representative of *Brick and Clay Record*, told his audience of conditions in the industry in the United States. He gave some concrete figures showing the amount of building being done in New York and Chicago, which proved that the industry was coming back into its own again. He also urged cooperation of employers with laborers.

Sydney Higgins, of Wm. Higgins & Sons, Manchester, England, responded to Mr. Allison's talk and told how British manufacturers have organized and dealt with labor conditions as well as the price situation. He further stated that the brickmakers in England have even urged their men to organize a union or join some union so that better cooperation could result. Messrs. John S. McCannell, George H. Clippert and T. A. Randall also contributed to the speechmaking.

Some very clever and enjoyable entertainment was intermingled with the addresses, featured especially by the Scotch and Irish dancing done by three children, resident of Montreal.

QUESTION BOX A BIG SUCCESS

At the final session held on Wednesday were given answers to questions, deposited in the question box by the various members. Mr. Greaves-Walker answered a great number of inquiries to the entire satisfaction of all present. This proved to be an extremely interesting session of the convention. Among the questions asked and answered were: "Relative Costs of Coal and Oil for Burning Clay Ware," "Relative Costs in Operating Various Types of Continuous Kilns," "Repairing Truck Tires," "Size of Brick," "Selling of Brick by Ton Instead of by the M.," etc. The latter point was voted to be referred to the executive committee who were urged to study the matter and investigate the work done in the United States on this point.

The question box was followed by an able explanation of the operation and working points of a Dressler Continuous Tunnel Kiln. Blue prints, photographs and samples of ware were displayed to aid in the description of the kiln. Phillip Dressler presented the discussion altho Conrad Dressler, the inventor, who had just arrived from England, was also present. Many interesting facts about the kiln were disclosed in the discussion which followed.

A representative of the Canadian Pacific Railway told those present of the urgent need and demand for clay tile thruout Canada and advised those present of the splendid opportunity for the sale of this product thruout the Dominion.

Resolutions expressing appreciation for the splendid entertainment furnished by the Montreal committee, who have set a precedent in furnishing a good time to the guests, which

will be a hard one to surpass, and thanking the visitors from the United States, were passed, following which President Kennedy closed the session by commending the members for their splendid support during the past year.

HARBOR TRIP ENJOYED BY EVERYONE

The committee then adjourned to prepare for the closing feature which was a most enjoyable trip thru the immense grain elevators and the great harbor of Montreal. The party boarded a comfortable steamer which took them down the beautiful St. Lawrence River and were the guests of M. P. Fennell who pointed out some of the numerous features of the gigantic harbor of Montreal. Here were seen mammoth steel plants, extensive docks, ships under construction and other features too numerous to mention and too good to miss. This enjoyable trip which took in seven miles of the harbor concluded one of the most splendid and impressive meetings ever undertaken by a clay products association in either Canada or the United States.

THE C. N. C. P. A. ROSTER

L. W. McArthur, Westmount, Que.
A. T. Alexander, National Brick Co., of LaPrairie, Ltd., Montreal, Que.
Gordon C. Keith, Toronto, Ont.
C. B. Lewis, Toronto, Ont.
B. C. Trotter, Standard Clay Products Ltd., St. Johns, Que.
F. H. Devenish, Contract Record, Montreal, Que.
Chas H. Wallace, Clay Products Agency, Ltd., Toronto, Ont.
Ryland H. New, Hamilton and Toronto Sewer Pipe Co., Ltd., Hamilton, Ont.
T. H. Graham, Shale Products Limited, Inglewood, Ont.
A. F. Greaves-Walker, American Refractories Co., New York
F. B. McFarrin, International Brick Co. of Canada, Limited, Toronto, Ont.
R. W. Steere, American Dressler Tunnel Kilns Co., New York
Phillip Dressler, American Dressler Tunnel Kilns Co., New York City.
P. F. Flemming, National Brick Company of La Prairie, Delson Point, Que.
Wm. Clarkson, Goodyear Tire and Rubber Co., Ltd., Montreal, Que.
N. T. Gagnon, National Brick Co. of LaPrairie, Ltd., Montreal, Que.
Will P. Blair, National Paving Brick Manufacturers' Association, Cleveland.
George Kenvit, St. Lawrence Brick Company, Montreal, Que.
W. H. Grant, Elk Fire Brick Co., St. Marys, Pa.
G. L. Memory, Elk Fire Brick Co., Hamilton, Ont.
L. Haigh, American Clay Machinery Co., Bucyrus, Ohio.
Thos. Kennedy, Dominion Sewer Pipe and Clay Industry, Toronto, Ont.
Chas. W. Parks, International Clay Machinery Co., Dayton, Ohio.
Geo. H. Clippert, Geo. H. Clippert & Brother Co., Detroit, Mich.
Theodore A. Randall, Indianapolis, Ind.
J. H. Eccles, Montreal Fire Brick Works Co., Ltd., Montreal West, Que.
Sydney Higgins, William Higgins and Sons, Manchester, England
David B. Gibson, "Brick and Clay Record," Chicago, Ill.
Jos. Asselin, Mack Brick Co., Delson, Que.
M. W. Davidson, St. Lawrence Brick Co., Ltd., LaPrairie, Que.
L. R. W. Allison, "Brick and Clay Record," New York City.
Hubert Desjardins, Montreal Terra Cotta Co., Limited, Montreal, Que.
Conrad Dressler, American Dressler Tunnel Kilns Co., New York City.
W. Dykes, Morrison & Co., Montreal, Que.
T. A. Morrison, Morrison & Co., Montreal, Que.
Duncan C. Merkley, Merkley's Ltd., Ottawa, Ont.
F. L. Steinhoff, "Brick and Clay Record," Chicago, Ill.



Employers Warned to Carry Compensation Insurance

"Many employers who come under the Workmen's Compensation Law are not carrying the insurance that the law requires," said John Mitchell, chairman of the New York State Industrial Commission on May 31.

"This law has been in force for almost five years and the neglect of numerous employers to carry workmen's compensation insurance is inexcusable.

"An employer who is subject to the law," said Mr. Mitchell, "may insure in one of four ways,—in the state fund, in an insurance company, in a mutual, or, if he satisfies the com-

mission of his financial responsibility and deposits the necessary securities, may be permitted to become a self insurer.

"An employer subject to the act who fails to insure in one of these ways is not only subject to civil penalties but is also guilty of a misdemeanor, the maximum punishment of which is a fine of five hundred dollars or imprisonment for one year, or both such fine and imprisonment.

"Every week we have cases of awards to injured workmen and their dependents which cannot be collected because the employer failed to carry compensation insurance and is unable financially to meet the payments himself. Many of these cases are very sad indeed, and involve great hardship to widows and orphans. The commission feels that it will resort to criminal prosecutions against employers who persistently neglect their duty under the law.

"Ignorance of the law is no excuse. It should be the duty of every uninsured employer to communicate with the Industrial Commission and find out what his responsibilities are under the Workmen's Compensation Act. It is usually the small employer who fails to do this and it is he, above all, who should carry the proper insurance. A severe accident in his plant means his financial ruin, whereas, he could have protected himself and his injured workers by paying small annual premiums.

"The commission is determined to remedy this condition. We hope that employers will comply with the law voluntarily, but if it becomes necessary we shall not hesitate to commence legal proceedings against them."

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New Clay Combine in England

A new combine of china clay producers was registered in England April 9, 1919. This company, known as the English China Clays, Ltd., is capitalized at £2,000,000 in £1 shares (400,000 cumulative preference shares and 1,600,000 ordinary shares). It will take over the business of the West of England and Great Beam Clay Co., Ltd., the North Cornwall China Clay Co., Ltd., and Martins Bros., Ltd. The new company proposes to search for, win, refine, prepare for market and deal in china clay, china stone, and other cognate substances, etc. The main office as registered is at High Cross Street, St. Austell, Cornwall.

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A Market For Glazed Tile in Mexico

Possibility exists for the further development of the use of glazed tile in Mexico according to Vice Consul John C. L. Drier, stationed at Mexico City, Mexico. A list of all such dealers in Mexico is now on file with the Bureau of Foreign and Domestic Commerce at Washington, D. C., and American manufacturers will no doubt take advantage of this opportunity to increase their export trade. Commenting upon the Mexican market for glazed tile Consul Drier has said:

"There is a favorable market in the consular district of Mexico City for certain classes of glazed tiling for walls and floors. The most popular tiling known to the market is an English product 6 by 6 inches in size, but this is now very scarce and difficult to secure, leaving a favorable opening for the customary American make, 3 by 6 inches in size. The market calls for various colors.

"A high grade of the American tile, with favorable prices and prompt delivery, should find an open market at this time. This particular grade of tile must be suitable for walls and floors of bathrooms and kitchens. Under normal conditions the 6 by 6 English tile sold locally at 15 centavos

a piece, while at the beginning of the present year 45 centavos a piece was asked.

"Another tile that would find ready demand here is a flat—preferably red—slightly glazed tile to be used in building charcoal stoves or brazeros, as they are locally called. This tile is not made here, and several substitutes are used, which are not satisfactory. The tile should be about 6 by 6 inches and 1½ to 2 inches thick.

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Buy W. S. S. With Liberty Bond Interest

In a statement which will be mailed to holders of registered Liberty Bonds, together with their interest checks, Carter Glass, Secretary of the Treasury, pays high tribute to the 20,000,000 Americans who so patriotically assisted in winning the war by purchasing War Savings Stamps and Liberty Bonds. Mr. Glass urges that the interests on the Liberty Bonds be converted into War Savings Stamps, which pay 4 per cent. interest, compounded quarterly. Secretary Glass's statement follows:

"The United States appreciates your unselfish patriotism in lending the money which helped win the war. Upwards of 20,000,000 Americans shared this honor, and are receiving during 1919 more than \$700,000,000 interest.

"Both good citizenship and your own profit will be served by the reinvestment of your share of this great sum in War Savings Stamps. The Government will be saved this immediate outlay in cash. You will profit by the quick reinvestment of your earnings, which is the high road to prosperity and comfort."

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Advantages of Pneumatic Truck Tires

Motor truck users are beginning to learn the advantages of the pneumatic tire for trucks. The pneumatic tires add immeasurably to the riding qualities of the truck. The bumps, thrusts, jerks, and clatter which shiver thru a truck equipped with solid tires are entirely eliminated when pneumatics are used, so that the truck rolls along like a touring car. Many makes of trucks are now being equipped with pneumatic tires by the manufacturer, and the total freedom from jarring, the smooth even, easy movement has been a revelation to the drivers who have been used to the solid-tired truck. It has been proved that where pneumatics are used a truck can pull up the steepest hill just as easily with a 40-inch rear wheel as with a 36-inch wheel on a solid tire, the gear ratio being the same. It has also been proved that a truck will carry bigger load, will have more horsepower, longer life, and suffer much less shock to its parts with pneumatics than with solid tires.

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A Book of Interest to Truck Owners

Among the new books published recently is one of value to repair men, students and motorists, as it includes an explanation of all basic principles pertaining to carburetion and shows how liquid fuels are vaporized and turned into gas for operating all types of internal combustion engines intended to operate on vapors of gasoline, kerosene, benzol and alcohol. All leading types of carburetors are described in detail, special attention being given to the forms devised to use the cheaper fuels such as kerosene. This book is entitled "Gasoline and Kerosene Carburetors," by Victor W. Page, and is listed at \$1.50.

Articles of Agreement

ARTICLES OF AGREEMENT, made and entered into this..... day of.....
191....., by and between THE AMERICAN FACE BRICK ASSOCIATION (hereinafter called ASSOCIA-
TION), of Pittsburgh, Allegheny County, Pennsylvania, party of the first part, and.....
(hereinafter called MEMBER OF ASSOCIATION), of, County
of....., and State of....., party of the second part.

IN CONSIDERATION of the mutual covenants set forth, it is understood and agreed as follows, to wit:

1. Said Association shall exploit the use of Face Brick, use its best endeavors to create a market for, and extend the sale of the same, and faithfully carry out the purposes of the organization.

2. Member of the Association shall pay to the Association fifty (50c) cents for every thousand Face Brick shipped by said member during the term of thirty-six (36) months next following the date upon which this agreement takes effect, said payments to be made monthly on the twenty-fifth (25th) day of each month for all Face Brick shipped during the preceding calendar month. Said payment, in no event, is to be less than ten (\$10.00) dollars each and every month. The terms and conditions of this contract, or any default in payment shall be enforced in law or equity by a duly authorized agent of the Association, who shall have the right to sue in the name of the Association.

3. A duly authorized representative of the Association shall have access to the books of said Member, for the purpose of ascertaining the correctness of the amounts paid, once every four months.

4. It is specially understood and agreed that this agreement shall be void and of no effect, except and upon condition that a like agreement be entered into by manufacturers of Face Brick, whose several output in the year 1916, made, sold and shipped, amounted, in the aggregate, to 600,000,000 of Face Brick. The written certificate of each manufacturer as to his output during 1916, shall be conclusive for all purposes under this agreement.

5. The Board of Directors shall, through the proper officer of said Association, give written notice to each and every member sixty days prior to date upon which the first payment hereunder becomes due and payable.

6. The Board of Directors may, at any meeting, regularly called, change and rechange the aforesaid rate of fifty (50c) cents per thousand Face Brick, but shall, in no event, fix a rate higher than fifty (50c) cents per thousand.

7. For all purposes under this agreement, the term Face Brick shall be construed to mean only those brick which are made, sold and shipped as Face Brick.

8. This agreement shall be binding upon the heirs, executors, successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the parties hereto have set their respective hands and seals the day and year first above written.

THE AMERICAN FACE BRICK ASSOCIATION (SEAL)

By.....

ATTEST:

.....

..... (SEAL)

By.....

F A C E B R I C K

PROMOTION CAMPAIGN

“OVER *the* TOP”

American Face Brick Association Is First of Clay Products Organizations to Comply with Minimum Requirements and to Launch National Advertising Campaign—Nearly One Million Dollars to Be Spent in Three Years—Manufacturers Who Have Shipped More Than Six Hundred Million Face Brick in 1916 Have Signed Association Articles of Agreement—Board of Directors in Memorable Meeting at Chicago on May 22 Perfects Initial Plans

WHAT WAS WITHOUT QUESTION the most momentous meeting in the history of the American Face Brick Association took place on May 22 at the Hotel La Salle, Chicago. There was present at this meeting the board of directors and in three hours they accomplished business of such far reaching effect as to completely overshadow anything that has heretofore been done. It might even be said that this meeting was the most remarkable ever held in the history of any trade organization because of the dispatch with which business was handled and because of the unanimity of opinion.

DIRECTORS PRESENT

President F. W. Butterworth called the meeting to order at 10:15 a. m. There were present J. M. Adams, Ironclay Brick Co., Columbus, Ohio; B. W. Ballou, Kansas Buff Brick & Mfg. Co., Buffville, Kan.; George A. Bass, Hydraulic-Press Brick Co., St. Louis, Mo.; Paul B. Belden, Belden Brick Co., Canton, Ohio; John H. Black, Jewettville Clay Products Co., Buffalo, N. Y.; F. W. Butterworth, Western Brick Co., Danville, Ill.; T. P. Cuthbert, Fallston Fire Clay Co., Pittsburgh, Pa.; F. A. Hoiles, Alliance Brick Co., Alliance, Ohio; W. H. Hoagland, Claycraft Brick Co., Columbus, Ohio; G. B. Lockett, Crawfordsville Shale Brick Co., Crawfordsville, Ind.; S. C. Martin, Kittanning Brick & Fire Clay Co., Pittsburgh, Pa.; Rogers M. Combs, representing J. W. Moulding, of the Thomas Moulding Brick Co., Chicago, and Chas. C. Stratton, Alumina Shale Brick Co., Bradford, Pa.

The first matter of business was the reading of a report prepared by Ernst & Ernst, certified public accountants, which is proof positive that the association is “over the top” in its campaign to secure the signatures of face building brick manufacturers whose shipments in 1916 amounted to more than six hundred million face brick. This, it will be remembered, was the goal set by the association when it launched the campaign. Ernst & Ernst has audited the records of the association and examined the signatures on the articles of agreement. This report is reproduced on a following page for the benefit of any who may be interested. The report was accepted and ordered filed by the board of directors.

WON'T STOP SHORT OF 100 PER CENT. MEMBERSHIP

Altho the association has passed the minimum mark thus assuring the expenditure of nearly one million dollars in promotion and other work for the association during the coming three years, it was the feeling of the board that the efforts to line up those manufacturers who have not as yet signed, should not lag. Accordingly, it was voted to leave no stone unturned in securing a one hundred per cent. membership on the part of the association among the manufacturers of face building brick in America. From the determined spirit shown by the members of the association to date, it may be confidently predicted that every face brick manufacturer in the United States will, 'ere long, be a member of the association.

The board also voted to put the association contracts into immediate effect and took action placing an assessment of fifty cents per thousand on August, 1919, shipments, which will be due and payable on September 25, 1919. This will be the first payment on the new articles of agreement and will be the first money contributed toward the promotion and publicity campaign for face building brick.

The board settled a very difficult point when it decided that those manufacturers who sell selected pavers and commons as face brick consider the sorting of same as a manufacturing process and count the selects as face brick under the terms of the contract.

It was decided that shipments of face brick made to points outside of continental United States be exempted from payment on the association agreements. For the information of those who may be uninformed on this point, let it be said that the present duty on American brick shipped into Canada is thirty per cent. ad valorem. However, this is to be reduced to twenty-two and a half per cent. within thirty days. A further reason for this action is that no Canadian face brick manufacturers are present members of the American Face Brick Association, nor have any such signed its articles of agreement.

Owing to the large increase in the membership of the association—nearly one hundred per cent. in consequence of the launching of the new promotion plan—the board

ERNST & ERNST

AUDITS AND SYSTEMS

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SCHOFIELD BLDG

CHICAGO
CONT'L & COM'L BK BLDG
ST LOUIS
BOATMEN'S BK BLDG
CINCINNATI
UNION TRUST BLDG
DALLAS
BUSCH BLDG
HOUSTON
UNION NAT'L BANK BLDG

CHICAGO

May 20th, 1919

Board of Directors,
The American Face Brick Association,
Chicago, Illinois

Gentlemen:

We hereby certify that we have examined the signed Articles of Agreement of THE AMERICAN FACE BRICK ASSOCIATION and the accompanying certifications by the prospective participants.

The following corporations, partnerships or individuals had signed identical Association's Articles of Agreement on May 17th, 1919, the total of whose 1916 deliveries of Face Brick, according to their certificates on file, amounted to 601,992,807:

Acme Brick Co., Cayuga, Ind.
The Acme Brick Co., Marietta, Ohio.
Adams Clay Products Co., Martinsville, Ind.
Alliance Brick Co., The, Alliance, Ohio.
Alton Brick Co., Alton, Ill.
Alumina Shale Brick Co., Bradford, Pa.
Ashton Fire-Brick & Tile Co., Ogden, Utah.
Auburn Shale Brick Co., Auburn, Pa.
Barr Clay Co., Streator, Ill.
Belden Brick Co., Canton, Ohio.
Birmingham Clay Products Co., Birmingham, Ala.
Bloomsburg Brick Co., Bloomsburg, Pa.
Boone Brick, Tile & Paving Co., Des Moines, Iowa.
Bradford Pressed Brick Co., Bradford, Pa.
Brazil Clay Co., Brazil, Ind.
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.
Brooklyn Brick Co., Indianapolis, Ind.
Bush & Co., W. G., Nashville, Tenn.
Cherryvale Brick Co., Cherryvale, Kans.
Claycraft Brick Co., Columbus, Ohio.
Claycraft Mining & Brick Co., Columbus, Ohio.
Coffeyville Vitrified Brick & Tile Co., Coffeyville, Kans.
Colonial Pressed Brick Co., Mogadore, Ohio.
Coral Ridge Clay Products Co., Louisville, Ky.
Crawfordsville Shale Brick Co., Crawfordsville, Ind.
Darlington Clay Products Co., Darlington, Pa.
Decatur Brick Mfg. Co., Decatur, Ill.
Des Moines Clay Co., Des Moines, Iowa.
Dixie Brick & Tile Co., Puryear, Tenn.
Duro Brick Mfg. Co., The, Akron, Ohio.
Everhard Co., Massillon, Ohio.
Fallston Fire Clay Co., Pittsburgh, Pa.
Ferro Brick Co., Watertown, Pa.
Fultonham Texture Brick Co., East Fultonham, Ohio.
Gloninger & Co., Pittsburgh, Pa.
Hanover Brick Co., The, Hanover, Ohio.
Heyburn Brick & Tile Co., Heyburn, Idaho.
Hocking Valley Fire Clay Co., Nelsonville, Ohio.
Hocking Valley Products Co., Columbus, Ohio.
Hydraulic-Press Brick Co., St. Louis, Mo.
Huntingburg Pressed Brick Co., Huntingburg, Ind.
Idaho Pressed Brick Co., Pocatello, Idaho.
Ironclay Brick Co., The, Columbus, Ohio.

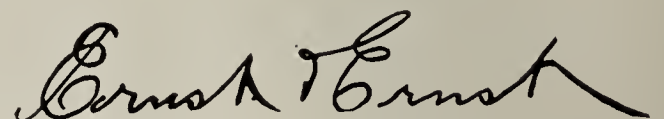
Jewettville Clay Products Co., Buffalo, N. Y.
Kansas Buff Brick & Mfg. Co., Buffville, Kans.
Keim Brick & Tile Co., Louisville, Ohio.
Key-James Brick Co., Alton Park, Tenn.
Keystone Clay Products Co., Greensburg, Pa.
Kittanning Brick & Fire Clay Co., Pittsburgh, Pa.
Kittanning Clay Mfg. Co., Kittanning, Pa.
Krantz Co., A. M., Paterson, N. J.
Kushequa Brick Co., Kushequa, Pa.
Legg Brick Co., Calhoun, Ga.
McArthur Brick Co., The, McArthur, Ohio.
Marietta Shale Brick Co., Marietta, Ohio.
Milton Brick Co., Milton, Pa.
Mill Hall Brick Works, Mill Hall, Pa.
Ogden Pressed Brick & Tile Co., Ogden, Utah.
Pawhuska Vit. Brick & Tile Co., Pawhuska, Okla.
Pittsburgh Callery Brick Co., Pittsburgh, Pa.
Poston Paving Brick Co., Crawfordsville, Ind.
Reynoldsville Brick & Tile Co., Reynoldsville, Pa.
Ridgway Brick Co., Ridgway, Pa.
Rochester Clay Products Co., Rochester, Pa.
Salt Lake Pressed Brick Co., Salt Lake City, Utah.
Southern Fire Brick & Clay Co., Chicago, Ill.
Sphar Brick Co., Maysville, Ky.
Standard Brick Co., Crawfordsville, Ind.
Standard Brick Mfg. Co., Evansville, Ind.
Stark Brick Co., Canton, Ohio.
Statesville Brick Co., Statesville, N. C.
Stephenson, L. L., Lovick, Ala.
Straitsville Impervious Brick Co., New Straitsville, Ohio.
Streator Brick Co., Streator, Ill.
Stuempfle's Sons, David, Williamsport, Pa.
Sumter Brick Works, Sumter, S. C.
Toronto Fire Clay Co., Toronto, Ohio.
U. S. Brick Co., Tell City, Ind.
Upper Kittanning Brick Co., Jersey City, N. J.
Utah Fire Clay Company, Salt Lake City, Utah.
Verdigris Valley Vitrified Brick & Tile Co., Neodesha, Kans.
Hay Walker Brick Co., Pittsburgh, Pa.
Walker's Mills Stone & Brick Co., Pittsburgh, Pa.
Watertown Brick Co., Watertown, Pa.
Western Brick Co., Danville, Ill.
Yingling-Martin Brick Co., Pittsburgh, Pa.

As instructed, we have not examined manufacturers' books to verify these output figures.

In addition, The Briggs Co., Lansing, Mich., has signed the Association's Articles of Agreement on behalf of the Face Brick deliveries to be made by The Baker Clay Co., Grand Ledge, Mich., so long as the latter's output is controlled by the former.

Further, we have noted four other agreements, the effectiveness of which is conditioned on ratification by company's Board of Directors, or upon the securing of agreement from various competitors.

Yours very truly,



Certified Public Accountants.

voted to suspend the initiation fee until further notice, this being necessary to conform to the by-laws of the association. Other action was taken with regard to the posting and acceptance of the new members.

ASSOCIATION TO TAKE ITS OWN MEDICINE

Now that the association is getting into the "big business" class, it was decided to authorize the secretary, R. D. T. Hollowell, to install an up-to-date and comprehensive accounting system for the association.

Examination of the association articles of agreement reveals the fact that in their present form, they are hardly applicable to new members who will come in the future. For instance in paragraph two it will be noted that the term of the contract is thirty-six months. It was determined wise to change this paragraph so that all contracts shall expire on the same date. Moreover, now that the minimum consisting of shipments of face brick amounting to six million in 1916 has been reached, it is no longer necessary to put in a qualifying clause. These and other minor changes will make necessary a new form of contract for those who will join subsequent to this date, and it was so voted by the board of directors.

In order to relieve a number of public-spirited face brick manufacturers of more or less arduous duties voluntarily assumed in the past in the capacity of secretaries for the various associational divisions, the secretary, R. D. T. Hollowell, was instructed to attend these meetings and act as secretary in the future for the divisions. This will also enable Mr. Hollowell to keep in touch with the manufacturers in various parts of the United States. In order to give him the necessary assistance in view of these added tasks, the president was authorized to employ an assistant to the secretary, also legal counsel for the association.

The Board of Directors instructed the Traffic Committee to proceed with its formal complaint before the Interstate Commerce Commission at Washington. This is in line with the facts and developments in the freight rate situation as set forth fortnightly in the columns of *Brick and Clay Record* as reported by the Washington correspondent. Every reader therefore has had an opportunity to fully acquaint himself with the developments in Washington along this line, so this action of the board is clearly understood.

The secretary of the association was instructed by the board of directors to post to the membership the names of all sixty-day delinquents in the matter of dues.

OBJECTIVES OF ASSOCIATION

Action of exceedingly great importance then followed. This had to do with the present objectives of the association. These were given as follows:

- A. Extension and retention of membership.
- B. Distribution of market reports and price exchanges.
- C. Stimulation of all work of the Divisions.
- D. The securing of reduction of freight rates.
- E. Universal adoption of uniform cost accounting system by units of the industry.
- F. Stimulation of demand by carefully thought out and efficiently executed promotion campaign.

No one present was in a position to offer an additional suggestion to the above objectives as presented by the executive committee. They were therefore adopted. These objectives are stated in very concise form. The association is to be highly commended upon the selection of such a worthy list of objectives. If they are carried out faithfully, and it is expected that they will be with the vast majority of face brick manufacturers as members of the association, the face brick business will be developed to a plane higher than has ever before been attained.

The board of directors decided that the promotion work of the association be placed into the hands of a promotion manager who will work in conjunction with the secretary and under the supervision of the executive committee.

It was determined that the promotion campaign of the association be conducted on national lines, that there shall be no funds furnished for local purposes but that there shall be available for local and sectional work the services of the promotion department to assist in every way possible. It is to be understood that all literature, cuts, or matter of any sort be furnished by the association for local and sectional work at cost. In this connection it might be said that there are two ways in which the money for advertising and promotion might be spent. One is to use it in a distinctively national campaign, and the other is to divide the country into sections and proportion a certain amount of money to each section, thus making the promotion work largely local. The objection to the last mentioned plan is that it is next to impossible for any set of human beings to divide the money to be spent for local work in an equitable manner. One territory is sure to be slighted while another may get too much. Furthermore, this plan would not make it possible to reach a vast class of consumers of building materials in the United States who live in the small towns and on the farms, particularly the latter. A national campaign reaches all classes everywhere. Such a campaign may be nicely complemented by local campaigns wherever manufacturers see fit to launch same. Under the action taken by the board of directors, manufacturers interested in such local campaigns will finance them locally, but it will be possible for manufacturers who are members of the association in connection with these local campaigns to secure literature prepared by the promotion department at actual cost of printing without charge for association overhead. Such literature, however, as is prepared as a result of the promotion efforts of the association, and it will be large, will be sent to all inquiries reaching association headquarters without charge.

CORDIALITY BETWEEN PRODUCER AND DEALER

A letter from President Jno. M. Stoner, of the Face Brick Dealers' Association of America, suggesting that the president and secretary of the American Face Brick Association meet with the executive committee of the dealers' organization with a view to discussing and formulating policies of cooperation between the two associations, was then read. It was unanimously voted that the president and secretary accept the invitation of the Face Brick Dealers' Association to meet with them in joint session and to co-operate with them in every possible way. This is a very important development and marks a new feeling of cordiality between the manufacturers and dealers in face building brick. Much credit for this is due Mr. Stoner for his broad vision and mature wisdom, and it is fully expected that the next moves made by the dealers and manufacturers toward closer cooperation will bring gratifying results.

With the putting into effect of the Association Articles of Agreement and the consequent assessment of fifty cents per thousand on August shipments, it will become necessary for each manufacturer who has signed the contract to watch his costs carefully and to see that this item is included therein. As a convenience to both the association and its members in facilitating audits of face brick deliveries by the association, the board of directors recommends the setting up of a separate account on the books of all members, covering shipments of brick on which payment to the association is to be made. This will insure the assessment being included as an item of cost.

The board voted in the matter of exempting from payment on certain character of face brick and on deliveries made under specified circumstances by determining that there shall be no deviation from the regular form of contract.

NEXT MEETING AT NIAGARA FALLS

It was decided to hold a meeting of the Board of Directors in the early summer at the call of the president. At this meeting it is proposed that the various chairmen of the divisions of the association shall be invited to meet with the board of directors. It is expected that this meeting will be held at the Hotel Clifton, Niagara Falls, Ontario.



Ferguson New President of U. S. Chamber

Homer L. Ferguson, president and general manager of the Newport News Shipbuilding & Dry Dock Co., of Newport News, Va., has been elected president of the Chamber of Commerce of the United States. This announcement was made May 17 at the offices of the Chamber at Washington as the result of a mail vote of the organization's board of directors.

Mr. Ferguson, who has been a member of the board of directors since February, 1914, and who has been actively identified with the Chamber's work, succeeds as president, Harry A. Wheeler, of Chicago, who declined reelection. Mr. Wheeler, who served as president the first two years of the Chamber's existence and who was called on last year to serve another term during the war emergency, could not accept the place.

Mr. Ferguson was nominated for the presidency by a nominating committee of the board of directors immediately after the Chamber concluded its annual meeting at St. Louis on May 1. His was the only name placed in nomination after Mr. Wheeler declined reelection and the vote, taken by mail was unanimous.

Born at Waynesville, N. C., March 6, 1873, Mr. Ferguson was educated at the United States Naval Academy, graduating in 1892, and at Glasgow University, Scotland, finishing there in 1895. For eleven years he was a constructor in the United States Navy, leaving the Navy in 1905 to become general manager of the company of which he is now president. He is a member of the Society of Naval Architects and Marine Engineers, the Society of Naval Engineers, The Engineers' Club, New York, and the Army and Navy Club, Washington.

In addition to Mr. Ferguson, the following other officers were elected by the board:

Vice-president: Eastern District, A. C. Bedford, New York; North Central, Joseph H. Defrees, Chicago; South Central, Thomas F. Gailor, Bishop of Tennessee; Western District. (To be filled later).

Honorary vice-presidents: Harry A. Wheeler, Chicago; John H. Fahey, Boston; A. B. Farquhar, York, Pa.; Charles Nagel, St. Louis; R. G. Rhett, Charleston, S. C.

Executive committee: Joseph H. Defrees, Chicago, Chairman; Max W. Babb, Milwaukee; A. C. Bedford, New York; W. L. Clause, Pittsburgh; L. S. Gillette, Minneapolis; P. H. Gadsden, Charleston, S. C.; Frederick J. Koster, San Francisco; James R. MacColl, Pawtucket, R. I.; C. A. Otis, Cleveland; L. E. Pierson, New York; M. J. Sanders, New Orleans.

Twelve members of the board of directors have been named by the Chamber's membership as follows:

Frank H. Johnston, New Britain, Conn., (reelected); Lewis E. Pierson, New York, (reelected); Henry M. Victor, Charlotte, N. C.; P. H. Gadsden, Charleston, S. C.;

Frank Kell, Wichita Falls, Texas; Clarence H. Howard, St. Louis, (reelected); Max W. Babb, Milwaukee, (reelected); George H. Barbour, Detroit; Charles C. George, Omaha; A. E. Carlton, Colorado Springs, Colo.; J. E. Chilberg, Seattle, (reelected); Frederick J. Koster, San Francisco.



Building Materials Probably No Cheaper

According to the Department of Labor, building materials are not likely to be any cheaper in the future. Basic building materials other than steel, are not regarded as essential to the war, and a maximum price was not fixed to keep producers in the market. In fact, building, as well as production of most building materials was specifically curtailed by order of the Government. The Department says:

"Actual production of common lime in 1918 was 20 per cent. less than in 1917. Portland cement produced in 1918 was 23 per cent. under 1917. Lumber was reduced 19 per cent. in output. Common brick in 1917 was 21 per cent. under 1916. It has been estimated that in 1918 the production of common brick was less than half the 1917 figure. As a consequence, the markets are understocked rather than overstocked in these commodities.

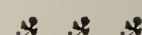
"Lumber as a group during the last quarter of 1918 was 73 per cent. higher in price than in the pre-war period, July 1, 1913, to June 30, 1914. The building materials group, including lumber but not including metal products, was 84 per cent. above the pre-war figure. This seems large, but as compared with 113 per cent. increase on commodities other than building materials, the increase seems justifiable. The farm products group showed an increase of 116 per cent. at the same time.

"At the beginning of the year a farmer could exchange a certain amount of his produce for 25 per cent. more lumber than the same amount would have brought him in the year preceding the war.

"Roughly speaking, by the end of 1918 the pre-war dollar, as expressed in terms of farm products, had shrunk to 46 cents; as expressed in terms of lumber, it had fallen to 58 cents; in terms of building materials (not including steel), it fell to 54 cents; and in terms of all commodities other than building materials, it fell to 47 cents.

"A composite index for all building materials, including steel as well as lumber and the rest, would show an increase of 93 per cent. over the pre-war period for the pre-war period for the last quarter of 1916. At present the index would be 189.

"Building material prices increased somewhat more in the East than in the Middle West, and in the West. Since the opening of the year lumber has increased somewhat in price. Common brick has also increased in the New York market. On the whole the group of basic materials not including lumber or steel has remained practically stationary, declines in some items being offset by advances in others. From all indications the prices of building materials on the whole do not seem to be subject to any declines of consequence in the future."



The Walla Walla (Wash.) Construction Co. has resumed the manufacturing of brick for building purposes, at its yards in the northern outskirts of the city. Labor is now plentiful and the company plans to have large quantities of brick available for extensive building the early part of June.

TO WHAT TEMPERATURE MUST FIRE BRICK BURN?

It Has Often Been Stated That Fire Brick Should Be Burned to the Temperature at Which They Are to Be Subsequently Used—The Author Submits Data to Prove This Is Not Always Necessary

By Raymond M. Howe

Mellon Institute of Industrial Research, University of Pittsburgh

AMONG THE FIRST ARTICLES which the writer read in the field of refractories was a statement to the effect that "fire brick should be burned in the kiln to the temperature at which they are to be subsequently used." This statement is often encountered both in authentic publications and in the trade. For these reasons, the topic warrants consideration.

The quoted statement is undoubtedly due to the fact that many users of fire brick desire a product which will not contract in service. This is natural and reasonable, especially since contraction during some forms of service leads to the intensification of destructive influences and subsequent shorter service. A specific example of this condition might be drawn from positions in which fire brick are subjected to the action of molten slag. In this particular case, if the brick is not well burned, contraction may begin at the portion which is in contact with the highest temperature. Such contraction will naturally open up the joints so as to expose the brick to the action of the slag, not only on one face but also to a partial action on four others. This more severe condition results in shorter service than might be secured were the same brick burned to a higher temperature.

Such an analysis of the situation apparently justifies the demand for *well* burned fire brick but does not answer the question as to *how* well burned the fire brick should be, nor does it prove that the fire brick should be burned to a temperature at least as high as that at which the furnace in which it will be used is operated.

In answering the first of these questions, experimental figures will be used which were obtained from a first grade Pennsylvania fire brick of recognized quality. This fire brick is one which would be used for arches and sidewalls in furnaces operating at 1500 deg. C. without the slightest hesitancy. Such brick were heated at a suitable rate to different temperatures, at which they were held for five hours. The original lengths of these brick being known, their lengths were again determined after having been subjected to this treatment. The contraction and expansion curve given was plotted from these figures.

TESTS MADE ON EXPANSIVE PROPERTIES

Other brick of the same variety were heated under a pressure of 25 pounds per square inch, for one and one-half hours, at 1350 deg. C. At the end of this test the brick showed an average compression of 5.6 per cent.

The first series of tests shows what temperature is necessary to thoroly burn these brick, or rather, what temperature

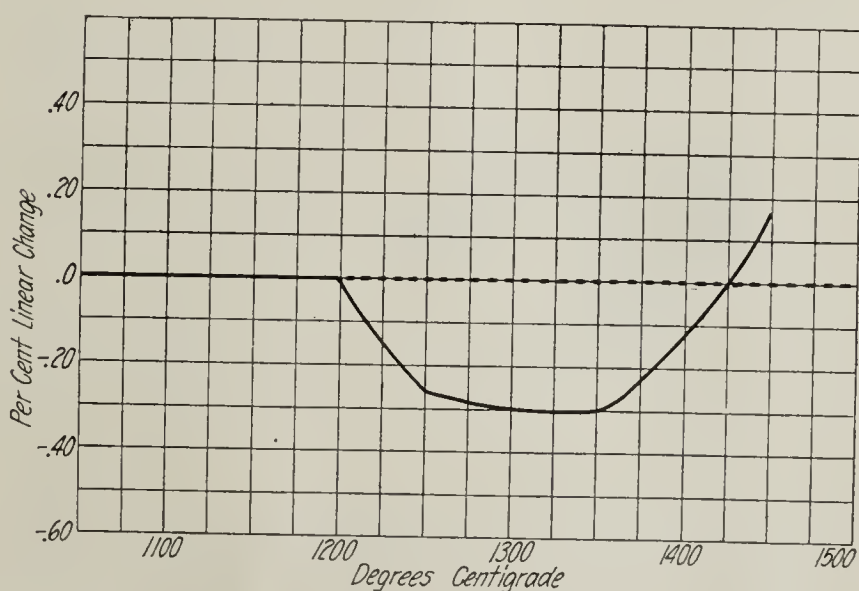
is necessary in order to prevent serious contraction in the furnace. The second test shows what might occur in the kiln, where these brick are heated thruout under pressure, at a temperature of 1350 deg. C.

Total Linear Changes for Different Temperatures

1100 deg. C.	.00
1150 deg. C.	.00
1200 deg. C.	.00
1250 deg. C.	.25 per cent. contraction
1300 deg. C.	.28 per cent. contraction
1350 deg. C.	.30 per cent. contraction
1400 deg. C.	.12 per cent. contraction
1450 deg. C.	.18 per cent. expansion

Examination of the table and curve shows that the brick did not undergo any contraction until 1250 deg. C. was reached. After this temperature had been passed, the length of the brick remained practically constant until 1400 deg. C. was reached, at which point a permanent expansion was noted.

In other words, the brick had apparently been burned to about 1200 deg. C., which temperature was nearly sufficient to burn out most of the shrinkage. A temperature of 1250 deg. C. was sufficient to complete the burn. Higher temperatures did not have the effect of appreciably furthering this shrinkage but resulted in causing a permanent expansion.



Curve Showing Shrinkage and Expansion of a Certain Fire Brick at Different Temperatures.

In view of these tests, it may be said that a temperature of from 1200 to 1250 deg. C. was sufficient to thoroly burn this fire brick, which, as was previously stated, is capable of giving good service at 1500 deg. C. Had the

fire brick been burned to 1500 deg. C. instead of to about 1200 deg. C. no advantage would have been gained.

Furthermore, as shown by the second test, the weight of the brick in the kiln would have been sufficient to cause those in the lower portions to have become distorted and bent had they been burned to such a temperature.

The reason for the first condition is that the flint clay which was used in this type of brick undergoes very little shrinkage in burning. After the bonding clay matures and the brick is strong, no further heat treatment is necessary. The reason why the brick cannot be burned to the temperature at which they are capable of being used is that pressure plays an important factor in determining the limit to which a brick may be safely used. When heated thruout, as they

are in the kiln, such brick soften at temperatures depending entirely upon the pressure to which they are subjected. Experiments were conducted in England which showed that fire brick could actually be vitrified by pressure alone.

It is only because of the fact that one portion of a fire brick is generally cooler than the other—due to radiation—that certain brick can be used at the higher temperatures. The cooler portion is able to carry the load and maintain the structure of the installation while the hotter portion, altho somewhat softer, must then only withstand the heat.

For the reasons stated, the writer believes that it is not always necessary to burn fire brick to the temperature at which they are used, and, furthermore, that it is often impossible to do so.



PAVING BRICK INTERESTS READY *to* COOPER- ATE *with* SEIBERLING, HIGHWAYS HEAD

EXPECTATIONS for the carrying out of a liberal road building program thruout the country are seen by paving brick manufacturers of Ohio in the acceptance by F. A. Seiberling of the chairmanship of the new highways committee of the Chamber of Commerce of the United States. To this end data has been compiled from many sources in the paving brick interests, which will be at the service of the committee if it sees fit to use it. This information now is on hand at the headquarters of the National Paving Brick Manufacturers' Association, Cleveland, Ohio.

Not only paving material interests, but motor car, truck, tire and countless other interests whose activities are interlinked with the building and maintenance of high class highways, are deeply interested in the appointment of Mr. Seiberling to this post. He is head of the Goodyear Tire & Rubber Co., and has been for some time past the head of the Lincoln Highway Association. Experts in road construction see in his appointment to this important post the exercise of executive ability to insure the working out of a national program of highway construction, for it is recognized that the whole future success of the highway building program now depends upon an experienced and guiding hand.

As cost will be considered perhaps as the first factor in highway construction on the mammoth scale the country's needs now demand, figures on brick road construction have been compiled. This data will show the relative costs of the surface material of a brick highway, including the monolithic, semi-monolithic, rolled stone or worn macadam foundation, and other types of construction. Of particular interest is the fact brought out that altho one brick road may cost a certain amount, it is shown that another of identical construction may not cost as much, or may cost more. The reason for this, it is explained, is the difference in traffic conditions. It is shown also that the amount of traffic over a certain road is the basis upon which the public at large estimates the value of that road.

PAVING BRICK MARKET PRACTICALLY UNLIMITED

The information will show that transportation of brick for road building purposes enters largely into the initial cost, for the cost of transporting the raw material is too great to permit the brick being made at any other than close to the source of supply of the raw material. It points out, however, that while the source of supply of paving brick may be limited, the market for it is limited only by the United States itself.

Some interesting figures on actual cost per square yard, for example, have been prepared. It is assumed that an 8½x4x3½ inch brick costs \$27 per M to produce. Brick of this size weigh 5 tons to the thousand, and at the freight rate of \$1.50, it costs \$34.50 to deliver the brick to their destination. As forty of these brick are required to lay one square yard of paving, the brick laid edge down, the cost per square yard is \$1.38. It is pointed out that this figure, however, is merely the cost of the material in the car at destination, and that cost of unloading, haulage to the job and unloading must be added, and this additional cost of course varies with the distance this final handling must cover. Other comparisons, with varied use of the same sized brick, and other sizes of brick, are given.

Considerable stress is laid upon the fact that on roads where the traffic is comparatively light different methods of laying, or use of different kind of brick, are possible, resulting, however, in the same comparative wearing qualities of the road as a whole.

HIGHWAYS MUST ACCOMMODATE MOTOR TRUCKS

In commenting upon the importance of future highway building, Mr. Seiberling points out that the automobile and truck production have by no means reached their peak, and that in five years, at the present rate motor trucks will equal in number the present number of passenger cars. He says:

"We must, therefore, construct highways to accommodate this vast army of motor vehicles, and build them of materials that will withstand the exacting demands upon them. Much of our present highways are totally inadequate for the needs of today, to say nothing of the future. Miles of good roads, suitable for light automobile traffic, are breaking under the strain of heavy motor truck haulage. The money that is to be spent now must be put into roads that will stand up under the strain of heavy traffic, or there will be great dissatisfaction among taxpayers, and future appropriations will be difficult to obtain. This gives us some idea of the comprehensive program of highway building that must be put into effect to care for our transportation problems."



Plans are being prepared for a two-story and basement brick high school building for Yuma, Ariz., at a cost of \$125,000. There are to be sixteen class rooms, an auditorium and a manual training department.

WHAT MAKES *a* SALESMAN?

The First of a Series of Three Articles on a Subject That Has Been Somewhat Neglected by the Clay Products Manufacturing Industry—Namely, Salesmanship

MEN are likely to become lawyers, doctors or carpenters because that line of work in particular appeals to them. They have a natural tendency that way. But as to salesmen; well, how many traveling men do you know who chose that line of work deliberately, because they liked to sell goods, and because they thought themselves naturally fitted for the occupation?

A REMARKABLE FACT

When we consider how few traveling men, comparatively, possess a natural, inborn talent for selling goods, it is remarkable that so large a proportion are successful. It requires hard work to achieve success in any line of work for which we have no natural liking or adaptability.

Of course it is quite impossible that all men should know at the beginning of their business careers just what kind of work they are going to be able to do best. Many youngsters do not seem to have any noticeable talent for any one kind of work. They might take up engineering or medicine or portrait painting and make a good living at any of them, not because of natural ability in that line, but because of a natural determination to succeed in whatever they undertake.

A man cannot succeed in salesmanship or in any other work merely because he is fitted for it by nature. He must possess sticktoitiveness, persistence, energy, determination. Then he will succeed whether he is naturally fitted for the work or not.

SALESMANSHIP REQUIRES THORO KNOWLEDGE

Probably nine men in ten who set out to be salesmen can become good salesmen, successful at least to the extent of making a living, if they will start in to learn salesmanship as they would learn any other profession. It is a mistake to assume that anyone who will, can go right out on the road and sell goods, that it requires no special experience or knowledge. It requires not only specialized knowledge of the goods to be sold, but also a thoro knowledge of selling. The business of selling is a business, a profession itself.

The beginner in salesmanship, the young man just starting out to gain his initial experience in selling, can learn much about the work and about proper methods without waiting to pick it up as he goes along. The old salesman too can learn a great deal other than by experience. No man ever gets to where he knows it all about his line of work, least of all when it is salesmanship. *And no man gets to where he can assume that it is not worth while for him to study his kind of work in the available text books and literature on the subject.*

Not only is there a great deal of very useful printed information obtainable regarding salesmanship, but the last few years have seen a great increase in the amount of work done by manufacturers in instructing their salesmen as to how they should go about making sales. There is still room for a further development of this kind of service and assistance. The house that makes it a point to stand right with its salesmen and to cooperate with them at every turn, will find it much easier to get the right kind of travel-

ing representatives, or to hold the men it has trained into the right kind.

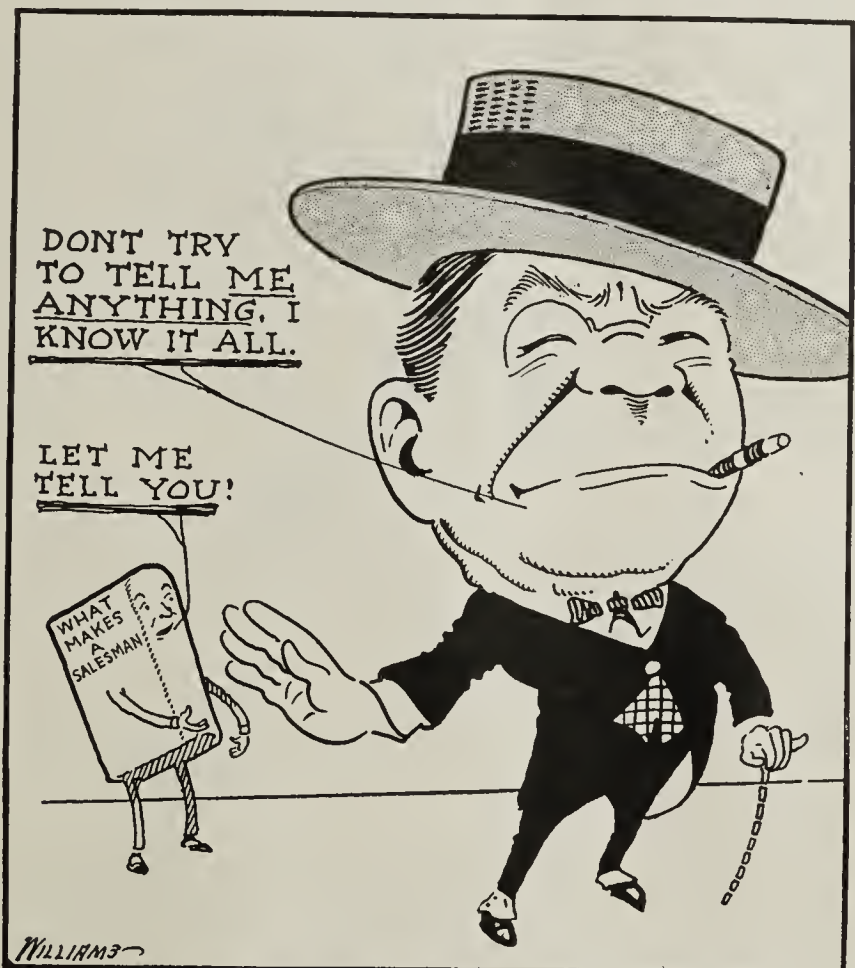
"NATURAL BORN" SALESMEN ARE SCARCE

It is always a great satisfaction to a salesmanager to find a man who bears evidence of being a born salesman, but the manager who might spend all his time looking for such salesmen would find that as a rule they would already be pretty closely attached to good positions. Men who can step right out and sell the top quantity of any line of goods in the very beginning are so scarce as to be almost beyond finding.

A good force will be built up much more quickly and it will possess greater cohesion if it is built up of men who have the ability to learn to sell, and have been taken on and taught properly. A man who has developed with, and has been helped to develop by a good house will stick by that house as long as he is properly treated, and the house can afford to pay him according to his developing ability. A good salesman does not change employers every time he is offered another position at a little increase in salary.

DESIRE TO BE SALESMEN—FIRST QUALIFICATION

The first qualification that operates to make a man a good



No Man Gets to Where He Can Assume That It Is Not Worth While for Him To Study His Kind of Work in the Available Text Books and Literature on the Subject.

salesman is the desire to become one, the wish to get onto the high ground. A simple feeling that making a living on the road is a good way of getting a nice salary, with all expenses paid, while seeing a good bit of the country,

is not at all the spirit that will make a good salesman. It will merely make a hired man. But if a man goes into the business of selling on the road because he feels there is an opportunity in that work to get ahead and to develop into a high class business man, his chance of getting somewhere near to the top will be good, provided he is a worker.

Whether a man has a natural aptitude for selling or not is less important than whether he is a good worker. Time and again the good worker makes good where the mere genius, the man who has only great natural talent, fails. No matter what a man's native ability may be, he will go no higher than he aims. If he is the man to be a mere hanger-on in the army of traveling salesmen, he will soon reach the point where even hanging on will be too hard work for him.

DETERMINATION NECESSARY

The man who has the determination to make good, along with a willingness or a desire to learn how, can go as far he likes. The man who has no inclination to learn, or who thinks he already knows enough to get along, will never get his foot off from the bottom rung of the ladder. In salesmanship as in exploration or in laboratory investigation, the



The Salesmanager—The House Behind the Salesman—Can Do a Great Deal to Create Enthusiasm in Representatives.

man who gets somewhere worth while is the man who is always trying to go a little farther than somebody else went, always trying to find out something the last man ahead of him did not discover.

It is efficiency that makes a man a good salesman and efficiency never stands still. To be really efficient a man must be able to do his work as well as anybody could do it. That means that he must be able to do it better this year than he could do it last year, and better a year from today than he can do it today. He will never be really efficient or proficient as long as he possesses the idea that he has learned all he really needs to know about his work.

SALESMAN NATURALLY TURNS TO THE HOUSE

The man who wants to be a better salesman very naturally turns to the house that hires him for advice and information along that line. He feels that the man who bosses him ought

to know all about how his work should be done. It seems to me that it is the business of every salesmanager to be in a position to give his salesmen the best of help in developing salesmanship. I do not believe that hiring a salesman is the same as hiring an expert of some kind who is supposed to know more than I do about the work in hand. It is not like hiring a plumber or an electrician and leaving it to him to do the work right.

The salesman with experience may have his own successful methods of approach, his own agreeable mannerisms and individual characteristics, but he feels that the house knows the goods perfectly and should know more about how they ought to be sold than any employe. The salesman ought to be able to look up to the house, to the salesmanager, and that power above him ought to be able to supply him with the assistance and information needed.

If the house is to know more about how its goods should be sold than the man it sends out to sell them, there should be someone at the head of the selling department who is a past master in salesmanship. The salesmanager ought to know as much about the actual selling of goods as he does about managing salesmen.

Of course salesmanagers of the desired qualifications do not grow on every bush, and there is abundant opportunity for good salesmen by studying management as well as actual salesmanship, to qualify themselves for the higher position of salesmanager. The salesmanager cannot be a mere theorist on selling. He must have a practical working knowledge, preferably based on his personal experience.

The salesmanager should possess the ability to teach others what he himself knows; then he can develop salesmen of the class he needs. He ought also to possess the ability to obtain from others what they know, and then he will absorb each of his salesmen's peculiar powers and pass them on to the rest.

ENTHUSIASM ONE OF GREATEST AIDS

One of the greatest aids to successful salesmanship is enthusiasm. When a man starts out on his initial trip he is likely to be imbued with a very decided enthusiasm for his job and for his line. If he lacks this, he lacks one of the most essential elements and he might better not start out at all.

Some men are naturally enthusiastic. They bubble over with enthusiasm. Others are quite lacking in that quality, and they have to get along on the enthusiasm of others which does not keep them properly keyed up. For a salesman to try to raise himself without enthusiasm is a good deal like trying to lift yourself by your own boot-straps.

The salesmanager—the house behind the salesman—can do a great deal to create enthusiasm in representatives and to keep it up. Some houses have well developed systems of competition among their men in different territories, and these are developed for the purpose of creating enthusiasm. Others depend upon the personal element, and inspire their sales forces by letters and by personal talks.

It is less important how the enthusiasm is created than that it exists. An unenthusiastic selling force may sell the goods the trade actually demands, but it will not develop any new business.

The man behind the selling force can do a great deal to instill in that force the desirable qualities, and to this extent the salesmanager is a power in the making of salesmen.

THREE FACTORS FOR SUCCESSFUL SALESMEN

Taken in order, probably the three greatest factors in the production of a successful salesman are the character of the salesman himself, the ability of the salesmanager, the standing of the house.

In choosing a position, the salesman should take all of these into consideration. In choosing salesmen and in the endeavor to keep the selling force up to a high level in personnel, they should all be taken into consideration by the house.

* * *

Markets For Sewer Pipe

About 600 carloads of vitrified pipe are said to be imported into Cuba annually. The matter of sewerage in municipalities receives less prompt attention than in the United States, owing to the difficulty of financing municipal improvements. But there is said to be considerable demand here for various sizes of pipe on the large modern sugar plantations for sewerage, culvert, drainage, and other purposes. Many of these plantations have railway lines of 50 to 100 miles in extent. Large pipe is used on many of these lines for culvert purposes. For surface water and other drainage Cuba relies to a considerable extent on cement pipe.—*Consul General H. W. Harris, Habana, Cuba.*

* * *

Uruguay should offer a good market for vitrified sewer pipe during the next 10 years. Projects are already on foot for sanitation work in 16 interior cities, as well as sewerage in the outlying districts of Montevideo. The work

has not as yet been authorized, but it seems highly probable that much of it will be undertaken. An American contractor estimates that some \$10,000,000 worth of necessary sanitation work will be executed in this country in the comparatively near future.

The principal competitors of American vitrified pipe will be the English product and cement pipe made on the spot. English pipe is already well introduced here, practically all the vitrified pipe used having come from England. In addition to familiarity with the product, the English manufacturer has the further advantage of complying more closely with local requirements. The American standard vitrified pipe will not satisfy local specifications, particularly as respects porosity, and many American manufacturers would probably have to turn out a special grade for this market. This is, of course, an important consideration.

As respects cement pipe, an American contracting concern which recently put in sewerage works in three Uruguayan cities made its pipe on the spot. This proved particularly advantageous on account of the shortage of vessels and high freights. Under normal conditions vitrified pipe will probably receive the preference if it can approach cement pipe in price. Cement is manufactured by a Uruguayan concern having a capacity of 400,000 barrels per year.—*Consul William Dawson, Montevideo, Uruguay.*



NEW YORK BUILDING INTERESTS WANT RELIEF, NOT MORE LEGISLATIVE RESTRAINT

BUILDING INTERESTS in New York, with one accord, declare that all they want is a fair chance to do business on a normal basis and their own enterprise and organization will give far quicker relief from the housing shortage than can any remedial legislation, according to the Dow Service Daily Building Reports, of May 26.

Distributors and dealers in New York, as well as in various metropolitan districts of the country, report that price quotations are actually being held at levels below what the potential outlet would seem to justify, solely to encourage the small investor to get into the market promptly. The remarkable jump in percentage of basic building materials leaving mason supply yards within the last three weeks shows that astute builders realize their present opportunity for there has been more building contracts let in May for private building work than in any month since August, 1916.

As a matter of fact the cure for the housing shortage is now actually under way and the bigger jobs, those concerning commercial and industrial housing, are being reported daily with much greater frequency. Ordinary American business enterprise is freeing itself from the shackles of Federal restraint and in the building business at least is reaching out for unhampered trade. The best opinion in the building industry is developing strong resentment toward anything that looks like meddling with a quick return to peace-time trade. The building profession wants a fair chance to meet the present pressing needs. Their plea is that all during the war they have meekly stood aside and made their heavy sacrifices when the nation's need decreed that theirs was an unessential trade. They have lost their organizations and now when the soldiers are returning and they have a chance to put these men back to work at their old jobs, when demand for buildings never was as good, they say investors are

deterred from going ahead for fear the legislature will enact a set of laws that will harrass them in their eagerness to meet the shelter need.

BUILDING NOW GOING AHEAD

Investors say they want relief, not more restraint. The fact that prices are almost stable now assures them that it is time to go ahead, and they are moving generously. The building department records amply verify this. The building material dealers say that one branch of the Government is urging building, while the other holds back lighterage relief and puts unloading burdens upon them that helps to keep the prices high. One wholesale stone distributor is authority for the statement that an immediate drop of 10 per cent. in the price of domestic building stone would ensue if the railroad unloading facilities were merely made adequate to handle the increasing volume of material coming in. It cost him \$130 in charges last week to move a freight car half a mile so as to reach a crane. Another case is where three cars of material urgently needed in a building operation in New York was held up on the New Jersey flats three days before it could be moved to railroad platform. Free lighterage promised almost a month ago is still a fiction as far as its being restored in this market is concerned and that helps to keep material prices high. Even the brick barge captains who have threatened to go out on strike on June 2, for the three-hour shift which would have put the price of brick in a wall to almost \$50 a thousand, have modified their demands to a jump from \$125 to \$135 a month, by way of doing their bit toward keeping cost of new construction down.

Normal functioning of the law of demand and supply is already meeting in a moderate degree, the housing problem of the day, but this law is going to be made inoperative again if paternalistic factors disturb anew the

settled dust of doubt in the minds of those with necessary private capital who are feeling out their way to help to meet the increasing building shortage everywhere.

PRICE LISTS SHOW SHARP ADVANCES ON LUMBER

It will not be long before the present opportunity to purchasing building materials at present levels will have passed. Official delivered price lists on lumber show sharp advances effective today. Second-hand brick is now \$36 a truck load of 3,000 brick delivered at points in Manhattan below 110th Street and \$40 in Queens. With only fifteen barges of brick distributed about the city at this time of the year when there should be eighty, and with sales already equalling arrivals in this market from Hudson River points the \$15 wholesale level is a straining point. Linseed oil is advancing, too, effecting paints.

It is a fact, now freely admitted that, supplemental material interests are expecting gigantic markets to appear. The metal trades are confident of capacity business within the year. Those who watch the trend of the building trades already sense a quickening reflective pulse in basic lines, but the reaction of full metal market is not apparent in basic lines until the product reaches the consumer in the form of fabricated steel, of pipe, wire goods, metal lath, power equipment or reinforcing bars. In the latter, the closest indication of what is immediately in store for the basic building material manufacturers is seen.

The situation has suddenly changed to one of great firmness. The price, so far, is being maintained at \$2.25 by the larger mills, altho smaller mills are making concessions, but not in any case more than \$2 and this only for very desirable business. There is no general disposition to cut prices, the mills believing they can secure the full price as easily as anything lower and their anxiety to secure business at lower figures would only scare off buyers.

This is exactly the sentiment in every line in the building material basic and supplemental markets today. The material movement speeds the buyer and the boom is on its way.

* * *

N. J. Clay Workers' Midsummer Meeting

At a recent meeting of the executive committee of the New Jersey Clay Workers Association, it was decided to hold the regular midsummer meeting at Trenton on a day to be selected during the week of June 23-28. Owing to the lack of extensive hotel accommodations in Trenton, as well as to current sub-normal conditions in different branches of the pottery industry, it has been voted to limit the meeting to a one-day session rather than a two-day affair, as initially anticipated. An interesting program is being arranged for the meeting, and a fine attendance is expected. Charles Howell Cook, president of the association, will preside at the meeting.

* * *

Spear Interests in Washington Plant Sold

A. B. Fosseen, H. F. Lehman, W. E. Coleman and D. C. Van Brundt, all of Yakima, Wash., and Victor Piolet, of Spokane, present sales manager of the company, have taken over the control of the Washington Brick, Lime & Sewer Pipe Co., Spokane, Wash., from J. L. Spear and members of his family. The company is capitalized at \$2,000,000, of which \$1,000,000 is preferred stock and \$1,000,000 common or bonus stock. J. H. Spear, president and organizer of the company, plans to retire from active business after

31 years in Spokane, and his son, L. H. Spear, also withdraws as secretary and treasurer.

Under the reorganization the officers will be: President, A. B. Fosseen; vice-president and sales manager, Victor Piolet; treasurer, D. C. Van Brundt; secretary, Charles P. Lund. The company will be continued under the old name, but the new owners plan to extend the scope of its operations. It will engage on a large scale in the manufacture and sale of all kinds of clay products and building materials.

At present the company operates a face and fire brick plant at Clayton, a terra cotta plant at Clayton, a sewer pipe plant at Spear, a common brick plant at Freeman and a lime plant at Bayview, Idaho. It employs about 170 men now, but the number will be increased at an early date. The Freeman plant, now idle, will be opened and the company expects to have all of its plants operating at full capacity at an early date.

* * *

Cleveland Home Building Progresses

Preliminary steps toward perfecting the "Own Your Own Home" campaign for Cleveland, Ohio, have been started in the organization of the United States Home Registration Bureau. Altho the bureau has only just been established, scores of applicants who seek to purchase or to build houses are filing their specifications daily, according to Mrs. A. S. Hobart, director of the bureau. Specifications are filled out on blanks. These blanks will be used as a working basis by the home building committee to be appointed soon by Paul L. Feiss, president of the Cleveland Chamber of Commerce, and local representative of the United States Housing Corporation.

While the bigger building projects in Cleveland have not grown apace with the natural house building program itself, it is the belief of brick interests in Northern Ohio that good influence will be felt in Cleveland from the energy displayed by the material and business interests of Akron. Report on a brief investigation conducted by R. L. Queisser, of the R. L. Queisser Co., Cleveland, is expected to be forthcoming at an early date, following his inspection of the situation in Akron. In the Rubber City, according to Mr. Queisser, much united effort of various factions identified with the building industry is in evidence. From the brick distributor's point of view he emphasized the progress on two hotels, costing \$3,000,000 each. One of these is owned by F. A. Seiberling, head of the Goodyear Tire & Rubber Co. It will house a theater in addition. Other large projects being started include two schools, a big garage and an apartment house, Mr. Queisser reports. It is the belief of brick interests in Cleveland, following Mr. Queisser's investigation that with united effort, and the settlement of labor differences, similar activity can be produced here aside from the possibilities to develop from the home building campaign.

* * *

Stimulating Interest in Drain Tile

"Giving a 100 Acre Farm the 200 Acre Punch," is the title of a very small booklet of sixteen pages and numerous illustrations, distributed by the Western Tile Drainage Bureau of Des Moines, Iowa.

The booklet includes chapters on the theory of drainage, the advantages of tiling farm land, and also illustrates a model farmstead and a properly laid out tile system.

* * *

The Paola (Kan.) Brick & Tile Co. has been incorporated with a capital of \$30,000.

To STAND PAT *for* RATE REFORM *when the* RAILROADS *are* HANDED BACK

Clay Products Manufacturers Favor Extension of Powers of Interstate Commerce Commission—Advocate Increasing Membership of Commission from Nine to Twelve—Suggest Appointment of Twenty-four Deputy Commissioners

By Waldon Fawcett

REFORMERS, working for the relief of the clay products industry from the oppressive burden of unjust and disproportionate freight rates, are going to stand pat on their demand for readjustment after the railroads are returned to private management and operation. In the light of President Wilson's message and the manifest temper of Congress, that the railroads will be "handed back" to the owners is a foregone conclusion. January 1, 1920, is the probable date. With this prospect of a restoration of pre-war status in railroad administration, the interesting question arises, what will be the attitude of brick and other clay products manufacturers with respect to rates.

As the result of conferences of the past few days between leaders in the clay products industry and legal counsel it may be authoritatively predicted that the restoration of the railroads to private management will not result in any abatement of the organized campaign to secure a square deal for clay interests in the matter of transportation charges. By and large, the return of the railroads is not expected to bring any general reduction in rates whatever betterment of service may result from the restoration of competitive conditions. The contention of the clay products manufacturers is that rates on their products are out of line with the charges on other commodities and that, without denying the need of the railroads for greater aggregate income, what is needed in the mutual interest of industry and transportation is a rearrangement and realignment of rates in furtherance of a sense of balance and proportion as between the various commodities.

PROOF POSITIVE THAT RATES ARE TOO HIGH

Some brick men who have not looked closely into the situation have had misgivings that it may be difficult to argue for a reduction of the rates on brick, tile, etc., in the face of increases actual or prospective on many other classes of manufactures. That, however, is precisely what the representatives of the industry before the Interstate Commerce Commission are prepared to do. They insist that brick and tile rates are now so high that the excessive transportation charges are checking the movement of traffic and that when rates are such as to stifle the flow of commerce that circumstance is proof positive that the rates are too high. In short, it will be insisted on behalf of the clay products interests that what is needed above all else is a readjustment, a scien-

tific equalization of freight rates on the respective classes of traffic instead of the horizontal increases that only emphasize the existing discrimination against products, such as brick, that are already overcharged.

With the early return of the railroads a virtual certainty, the question has been raised the past few days in brick and tile circles whether the "missionary work" before the Interstate Commerce Commission which has been planned for this summer and autumn will in any sense prove to be wasted or superfluous effort. The answer on the part of the directors of the industry's campaign is an emphatic "No." Their logic is that it is to the Interstate Commerce Commission that the brick industry must look for relief. It is this tribunal that must be convinced of the inequalities of the situation before any broad, lasting reform can be counted upon. Consequently the obvious duty is to win the Interstate Commerce Commission and effort in that quarter, far from being wasted, is likely to prove a case of taking time by the forelock if it should turn out that the Interstate Commerce Commission will have greatly increased powers of rate control, etc., in future.

WHERE RATE CONTROL SHOULD BE VESTED

Just here is disclosed perhaps the most interesting aspect of the immediate situation as it affects the brick and tile industry. Not only are the organized forces of the industry pinning their faith to the Interstate Commerce Commission for relief from the existing, burdensome rates but they are ready to throw the weight of their influence in favor of the selection of the commission as the agency that shall in future exercise the increased powers whereby both cooperation and consolidation on the one hand and competition on the other will be limited, controlled, and regulated in the interest of the conservation of the good and the elimination of the bad in each. Right here, by the way, is the heart of the whole question of future freight rates and future transportation policies,—the selection of the quarter in which control is to be vested and the determination of the extent of that control.

As is to be expected, when such an upset looms just ahead, the country is beginning to be flooded with recipes for the millenium of railroad direction and supervision. Rate making subject to review by a brand new federal tribunal, exercise of control by newly-constituted regional committees, and

other panaceas have been proposed. However, the clay products interests, led by their able counsel at Washington, Mr. Francis B. James, have already come out unequivocally in favor of extension of the powers of the Interstate Commerce Commission to meet the new needs and this course will probably be formally advocated by spokesmen for the clay products organizations before the Commerce Committees of Congress in the event that there is a fight over the question where authority over the railroads and over railroad rates shall be vested.

It will not, however, be the sentiment of the clay products industry, as it is now taking shape, that the present machinery of the Interstate Commerce Commission will be sufficient for the new responsibilities that will devolve upon it. Mr. James, who for many months past has been making a special study of this precise problem, has reported to the brick and tile committees that whereas a reorganization of the Interstate Commerce body involving the creation of regional commissions would surely destroy confidence in national regulation it is unquestionably desirable that the membership of the commission be increased from nine to twelve in order that it be enabled to work in four subdivisions of three members each instead of in three subdivisions as at present.

A NEED OF MORE ELASTIC ARRANGEMENTS

A reform particularly desirable for the sake of the clay products industry where a multiplicity of minor disagreements over rates are rather to be expected, is that which would be provided thru the suggestion of Mr. James for the appointment of twenty-four deputy commissioners in accordance with the idea put forward a few months ago by United States Senator Kellogg and endorsed by Edgar E. Clark, the member of the Interstate Commerce Commission as now made up whose views are most closely in accord with those of loaders in the brick industry. The need for some more elastic arrangement whereby brick and other clay products manufacturers can lay their grievances and appeals before the commission, with a confidence that their pleas are really reaching the seat of authority, has had ever-increasing emphasis under the present workings of the system.

Every shipper of brick or other clay products would naturally prefer that a member of the Interstate Commerce Commission should sit in judgment upon a case in which he is interested, yet, as matters now stand, it is only in rare instances that a commissioner or commissioners can hear testimony in person. When there is at issue a broad vital principle such as that involved in the petition which is soon to be brought before the transportation tribunal in behalf of the brick and tile industry in general, proper consideration may be gained but ordinarily testimony is heard by a single examiner who alone formulates the tentative report on the case,—too much responsibility to be vested in one man, especially when, as is so often the case, a nation-wide precedent is the outcome. It is the idea of Mr. James and the other exporters who have been analyzing the situation for the benefit of the clay products interests that in any and all cases where a tentative report is to be submitted the case should be heard by three deputy commissioners. This will presumably be practicable if the force of the deputy commissioners is created. It should be the means of dodging one-man-power in rate-making, the very bogey, fear of which is causing brick and tile men to line up solidly against the proposal that the rate-making power be placed in the hands of a cabinet officer.

Brick and tile interests that are now working in favor of the plan for placing the whole administration of interstate commerce in the hands of a national body are moved in no

small degree by a feeling that the clay products industry would be freed from many of the handicaps that now hobble it if it was the practice of the Interstate Commerce Commission to initiate rates. Voluntary action by the national supervisory body leading to the reduction of rates that scientific investigation has disclosed to be too high would be a welcome variation from the present expensive and time-consuming necessities for the undoing of a wrong in rate-making.

* * *

Two Large Sewer Pipe Plants Visited By Philadelphia Officials

The entire personnel of the Bureau of Survey and Tests, of the City of Philadelphia, Department of Public Works, to the number of more than fifty, visited the plants of the Clearfield (Pa.) Sewer Pipe Co. and the Patton (Pa.) Clay Manufacturing Co., on May 20 and 21, to make a thorough inspection of the process of manufacturing salt glazed, vitrified sewer pipe and like products. The Bureau of Survey had its own official photographer and motion picture expert and these parties were kept busy from the time they entered the hotel, where a splendid chicken dinner was served until they left the clay plant. Pictures were taken of the various views and processes in the manufacture of sewer pipe, paving brick, etc., from the steam shovel pit and the mines, to the grinding, mixing, pressing, setting, burning and shipping of the products which play so important a part in the sanitary sewers and other important work of the chief city of the state.

A large schedule of necessary sewer work and street improvements that had been unavoidably delayed during the war is now to be put under way and millions of dollars will be expended during the present year.

Local sewer pipe has been used in Philadelphia in large quantities for nearly a quarter of a century and the modern and efficient plants which the delegation visited will undoubtedly strengthen their faith in the permanence and quality of both Patton and Clearfield pipe.

J. J. Fitzgerald, the Philadelphia representative of the Patton and Clearfield plants, which plants are owned by the same interests, arranged all details of the trip and looked after the comfort of the guests.

Henry F. Good, president of the Patton Clay Manufacturing Co., and George E. Prindible, president of the Clearfield Sewer Pipe Co., met the party on arrival at Clearfield and were with them thruout the visit, and feel highly honored by the importance attached to these industries as evidenced by the visit of these representatives of the Bureau of Survey and Tests.

* * *

Fire Clay Industry in Manchuria

Fire-clay brick and jars (for holding acids) made of fire clay are produced at Port Arthur by the Fire Brick Kiln. The clay comes from Fuchow, just outside the Leased Territory, and is delivered at Port Arthur at a cost of about \$3.50 United States currency per short ton; siliceous stone is plentiful at Port Arthur. This factory is given Government aid.

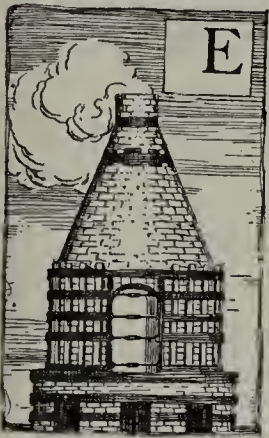
The products of this kiln are said to be satisfactory and to have been supplied to a number of foundries, coal mines, etc., in Manchuria and Chosen. Nevertheless large quantities of Japanese fire brick were imported for the new Anshan steel plant by the South Manchurian Railway. Local and Japan fireproof brick supply all demands.—*Consul A. A. Williamson, Dairen.*

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

CLAY PREPARATION DEPARTMENT FEATURES THIS PORCELAIN PLANT



EQUIPPED TO MANUFACTURE electrical porcelain specialties at a low cost, describes in a few words the plant of the Illinois Electrical Porcelain Co., at Macomb, Ill. Unlike a great many concerns, this company has made careful plans for future expansion and whenever a new building is constructed or a new machine installed allowances are made for still greater capacity and the layout of the plant is arranged accordingly.

Thru the kindness of W. S. Ncase, the able suprintendent of this plant, the writer was escorted thru the various departments of this dandy little plant and permitted to take notes on anything he saw. To begin with he must say that the plant is one of the best equipped, designed and properly lighted factories of any whiteware plant ever visited. Very good care has been taken thruout all departments for the safety and comfort of the workers.

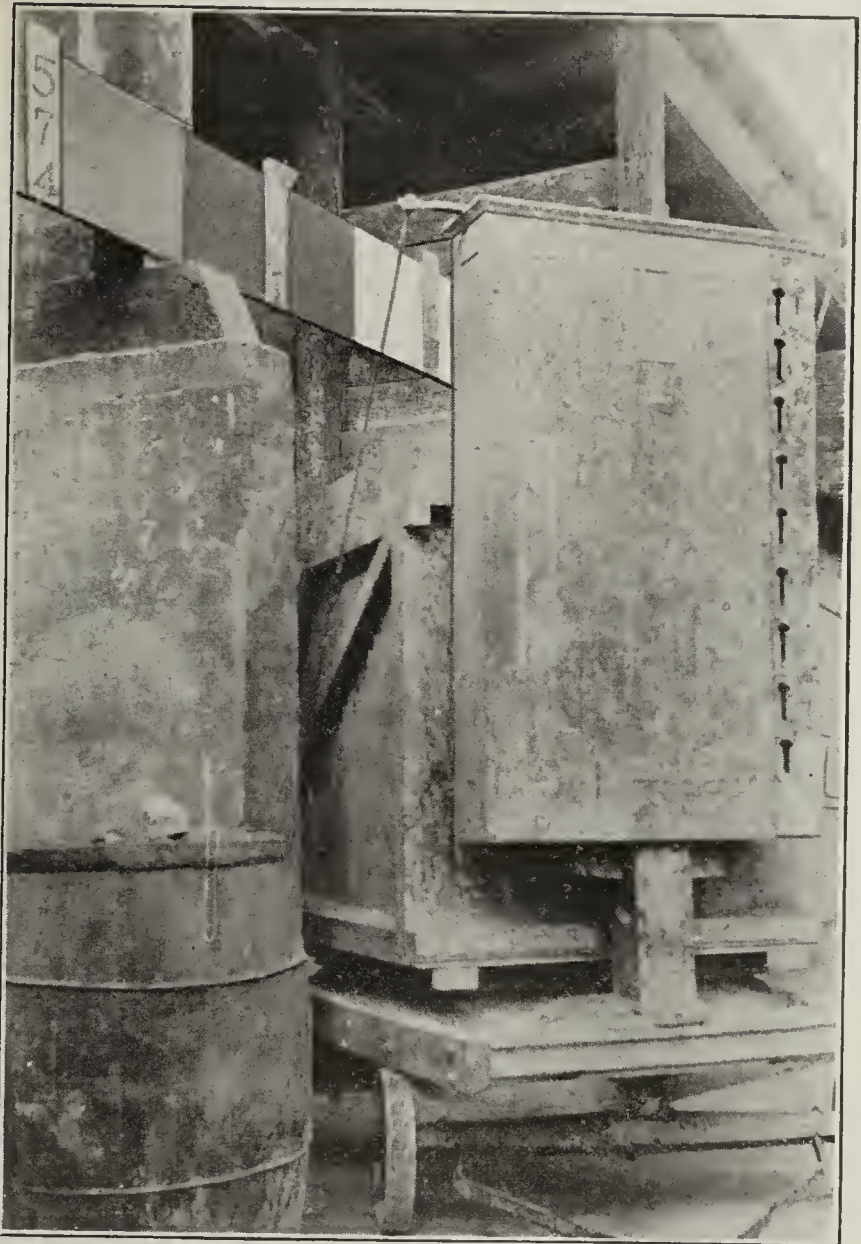
We will begin with the power plant which at the present



Clay Preparation Department. The Blungers Are Located at the Extreme Left. Owing to the Light Conditions, It Was Very Hard to Get a Good Photograph in This Room.

time consists of two boilers which transform the heat energy of the coal into steam and this in turn is utilized by the

125 horsepower Bates Corliss Engine which transforms the energy of the steam into electrical energy by reason of the fact that it is connected indirectly to a 75 KW dynamo. The engine and boiler rooms are kept in a very clean condition.



Note the Clay Weighing Cart in the Above Picture and Also the Horizontal Board Over the Bins Which Is Described in the Text.

We next passed into the machine shop which occupies a room of about 35 by 125 feet in dimensions. A complete equipment for the kind of work required in a whiteware plant was found here. Some of the more important machines represented were lathes, planers, drill presses, shapers, grinding wheels and a small furnace used for tempering metal. In this spacious room was also contained several racks of shelves where the various dies of which there were hundreds of different designs, were stored. A view of one of these racks accompanies this article. Hundreds of different kinds of pieces are made at this factory and a different die is required for each piece of different design. The dies require a high grade steel and must be tempered to a certain hardness.

The clay preparation room proved to be one of the most interesting of all departments in the factory. Along one wall facing the spur track of the C. B. & Q. R. R. was a series



Part of the Machine Shop Showing Racks Upon Which the Various Dies Are Stored.

of stalls containing the different clays used in the preparation of the body mixtures. Among the clays used are Tennessee ball clay, Georgia kaolin, Florida kaolin, Golding spar, Oregon (Ill.) silica and Missouri kaolin. The latter ingredient has been used very successfully during the last six months and found extremely satisfactory. It is very white and of a good degree of purity.

In front of these bins are four large blungers in which the raw clays are placed and thoroly admixed with water. An unusually good system of preparing the body mixes is



The Kicker Arrangement on the Tube Heading Machine May Be Seen on the Accompanying View. It Is Just to the Left of the Blunger.

in use at this plant. The blungers are numbered one, two, three and four and these numbers are metal figures placed on a board which is fixed on the top part of the machine

just below the large gear. Each one of these boards is painted a different color. One is red, another green, a third white and the other black. For each one of these blungers there is a weighing cart painted the same color as the board on the blunger which it supplies with clay.

BOTH SECRECY AND ACCURACY OBTAINED

Over each bin is a horizontal board painted in four sections with the colors red, green, black and white. On each of these sections there are numbers which correspond with the order of levers which are located on the right side of the scale box and can be noticed in the accompanying illustration. There are eight of these levers arranged in a vertical position. By pushing one of the levers down the scale becomes set at a definite weight. Any number or combination of levers may be pushed down at one time and the scale will become set to correspond with the weight that these numbers represent. Only the superintendent knows how



This Is the Dust Mill Room. The Storage Bins Will Be Noticed and the Machines at the Extreme End of the Room are the Grinders.

the scales are set and in this manner both secrecy and extreme accuracy is obtained in the preparation of the body mixtures.

Thus if the body for blunger No. 1 is to be made up we immediately take the cart representing this blunger, assuming for convenience sake that it is the red cart. Then the workman takes the cart to stall No. 1 and notes on the red section that the figures 2 and 4 are on the board. He then pushes down the second and fourth lever on the scale box and proceeds to fill up the cart with clay until a balance is obtained. In this way the correct weight of clay is measured out. After disposing of this load the workman goes to stall No. 2 where he finds that no figures are shown on the red section of the board. This means that none of this type of clay is used in this particular kind of body so he passes on to the next stall, where he perhaps finds the figures 3 and 7 on the red section of the board. He then proceeds to push down levers number three and seven on the scale box and measures out his quantity of ingredient. In this same manner all of the different bins are visited and the body prepared. The system is very simple and easy for the workman to use. Mistakes are rarely made and on the other hand speed, accuracy and secrecy is gained. If blunger No. 2 had a green board then the green cart would be used and the workman would look to the green section of the board for his weight figures.

After the clays have become thoroly mixed the valve at the bottom of the blunger is opened and the slip permitted to run out of the blunger into an agitator located on the



One of the Finishing and Glazing Departments Is Shown Above. The Dryers Are on the Right.



Dryers on the Right and Part of the Dry Press Department Is Shown on the Left.

floor below. The clay-water mixture is then pumped from the agitator to the lawn which is located to the rear of the blungers. The impurities are taken out of the clay by passing over the lawn and the refined material then runs into another agitator on the floor below. From here it is lifted by pumps to the filter presses. The water which is pressed out of the clay in the filter presses runs into a cistern and is used over again. Also the overflow which results when the filter press is not operating or becomes clogged runs into this same cistern, which is constructed of reinforced concrete. Eighty to ninety pounds pressure is maintained on the filter presses.

The blunger, agitator, lawn, agitator, filter press, cistern and pump form one complete unit in each instance. Thus there are four of each in the clay preparation department. All of the disintegrators are connected to one line shaft which is driven by a belt drive. Unlike many clay preparation departments this one is very well lighted and kept unusually clean.

STORING THE CLAYS

The cakes of clay are taken from the filter presses and stored in one of two ways. If the body is to be used for dry press ware the clay cakes are stored away and permitted to dry whereupon they are broken up and placed in concrete bins where they are sprinkled with a hose occasionally to give the mass a certain amount of moisture, sufficient so that a dry pressed piece of ware can be fabricated from it. The clay is afterwards taken up and put

thru a paddle mill where it is ground to a dust. These paddle wheels consist of a machine resembling in a way a small blower and the lumps are evidently ground up thru impact with the paddles that rotate in the shell. The fine dust is then blown out thru an exhaust pipe into a bin, from where it is taken and poured over a screen shaped like an inverted "V." This dust is then used for making the dry press pieces and is distributed to the different presses.

Each press is operated by hand power. The die is filled with the dust and then the plunger is brought down by a screw arrangement and an enormous pressure exerted upon the clay. Upon removing the press the piece of ware is placed upon a long board. A mixture of lard oil and coal oil is used as a lubricant. After the board is loaded to full capacity it is placed in a steam dryer just across the aisle of the pressing machines. The steam dryer contains several shelves each one made by two small steam pipes which support the boards holding the pieces of ware to be dried. A temperature of 120 deg. Fahr. is maintained in the dryer over night. The ware is left in the dryer for about 24 hours when it is taken out from the opposite side and set upon benches where girls take off the fins and ragged edges and true up the pieces to their proper requirements.

The pieces are then ready to be dipped into the glaze. Instead of using stoneware crocks as a receptacle for the glaze this firm now uses galvanized iron pans which they have found to be much cheaper. The crocks would be



View of Kiln Shed and One of the Kilns.



Interior View of a Kiln Showing Men Taking Down Saggers and Distributing Ware in Barrels.

dropped at one time or other and broken, sometimes allowing the glaze to run all over the ware. A galvanized iron pan outlasts eight crocks according to the experience of this plant and is cheaper and lighter to use.

Now to return to the clay cakes taken from the filter press, some are stored in damp cellars until required for



A Glimpse of Part of the Sagger Department. The Machine on Which the Saggers Are Turned Will Be Noted in the Fore-ground.

use when the clay is dug from the mass of plastic mud stored and shoveled into a pugmill where the air is forced out and the clay issues from the mouth of the mill in a solid bar. These bars are then taken to the molding department where the various pieces are made by jollying. Usually the larger pieces of ware are made by this process.

The saggers in which the pieces are burned are made in the sagger department of the plant and are made on the jolly. The ware in many instances is set in the green saggers and both the saggers and ware burned at the same time.

The ware is set in saggers which are placed in thirty-foot round down-draft kilns. Only the outer first ring of saggers are jacked up and no effort is made to jack any of the other rings. The floor is constructed with square fire clay blocks having an inch and a half hole in the block, one to about every square foot. There are ten fire boxes on each kiln and the ware is fired to a temperature of 2,500 deg. Fahr.

FOUR-WHEEL TRUCK USED

By using four wheel trucks for distributing the coal and taking away the ashes and refuse one man can do more work in one-half a day than four wheelbarrows can do in a full day according to the findings of this concern. Accordingly all wheelbarrows have been discarded recently and four wheel trucks installed in their stead.

A device which was developed at this plant and which shows the care which is taken by this concern to insure safety to its employes is the kicker arrangement on the tube heading machine. This simply consists of a long iron bar which can pivot on an arm attached to the main part of the machine. By a cam arrangement every time the punch descends into the die an arm attached to the wheel to which the punch is connected pushes the iron bar back, causing the other or lower end to pivot forward and push the hands of the operator away from the die. A spring placed around the lower end pulls the device back after the punch has ascended again.

The story of this plant would not be complete if we failed to mention the splendid facilities for the employes to clean-up before going home in the evening. A 25 by

25 foot room is set aside for the men employed and also one for the women workers. In the men's room are five shower baths, over one hundred lockers, twenty-six wash positions and other equipment common to this part of a factory. Conditions are very conducive for good light, cleanliness, safety and health at this factory and a contented lot of workers is the result.

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Among the Potteries

Enthusiastic and ardent support was given to the Victory Liberty Loan by the pottery and ceramic interests at Trenton, N. J. Every pottery plant in the city is represented in the total subscriptions from this branch of industry, both company officials and employes, with an aggregate of close to \$200,000. Among the largest subscriptions were Thomas Maddock's Sons Co., \$28,700; Trenton Potteries Co., about \$50,000; and the J. L. Mott Co., \$35,000. Other supporters of the loan in this section were: the Mercer Pottery Co., Resolute Pottery Co., Sanitary Earthenware Specialty Co., Monument Pottery Co., Maddock Pottery Co., Lenox, Inc., the International Pottery Co., John Maddock & Sons, Acme Sanitary Pottery Co., Jonathan Bartley Crucible Co., Cochran-Drugan Co., Goldings' Sons Co., Greenwood Pottery Co., Greenwood China Co., Keystone Pottery Co., Union Porcelain Co., Electric Porcelain Co., Imperial Porcelain Co., Cook Pottery Co., Elite Pottery Co., Bellmark Pottery Co., and the Anchor Pottery Co. At Washington, N. J., two of the principal ceramic plants are flying 100 per cent. Victory Loan flags indicating a subscription from every official and employe at the works, the plants being the Washington Porcelain Co. and the American Sanitary Works.

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Pottery business as a whole has been fairly good, but several lines have been draggy, according to the Louisville (Ky.) Pottery Co. Flower pots have been in good demand, as the florists have had a good season, and have been buying nicely. Milk churns, crocks, and dairy equipment have been moving nicely. The jug trade has been dull since the last Federal tax went on, with practically no car lot business. There is an excellent indication that stoneware crocks for packing fruit syrups will come into much greater use within the next few months. The soft drink manufacturers have been buying large quantities of various materials, and locally great quantities of strawberries have been sugared down in brewers' vats to meet future requirements of the soft drink industry.

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As a sidelight on the extensive activities of the Thomas Maddock's Sons Co., Trenton, N. J., manufacturers of high-grade sanitary earthenware products, it is interesting to note that Thomas Maddock, the founder of the company, was the first successful manufacturer of sanitary ware in this country. He was born in England in 1818, and came to America in 1847, bringing with him materials for the construction of a kiln for the firing of decorated ware. The growth of the Maddock institution to its high position in the trade at the present time, speaks well for his foresight and masterful executions in ceramic productions.

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A class in pottery has been established at the Base Hospital at Camp Dix, near Trenton, N. J., and some fine pieces of work are being turned out by the convalescent soldiers under the able direction of Captain Amthor who is in charge of the class. H. C. Mueller,

of the Mueller Mosaic Co., is in active cooperation with this movement. The Mueller company is preparing and furnishing free of charge all the necessary clays and enamels for the work, and handling the firing of the ware in the kilns at its local plant.

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Cleveland Brick Building Resumes; Strikers Go Back to Work

After being out nearly two weeks, striking bricklayers and masons in Cleveland, Ohio, have returned to work, at the order of international union officials. During the controversies between contractors and union building laborers since the first of May, when most contracts expired, the bricklayers have been about the only ones who actually left their jobs because immediate settlement of difference in the matter of wages was not forthcoming. About 300 workers were thus involved. Principal building activities affected have been those of housing construction, as frame construction has to grow apace with the brick work on chimneys and the like.

International union officials have pointed out to the strikers that wage negotiations, according to previous dealings, cannot be settled unless the men stay on their jobs. In this case as soon as the workers quit the employers refused to deal with them. At an early date a representative for both sides will be selected, when the question of more wages will be taken up.

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Pittsburgh Advocates Use of Terra Cotta Pipe

Since the use of terra cotta pipe has been prohibited under small buildings in Pittsburgh, Pa., because of the existence of a state law requiring the use of cast iron pipe only, the Pittsburgh City Council is expected to declare itself in favor of the bill pending before the state legislature now in session at Harrisburg permitting the use of terra cotta pipe. A delegation of builders for whom Robert K. Cochran was spokesman appeared before Council in Pittsburgh recently on this subject. Mr. Cochran advised the Council that it was the opinion of the delegation he represented that building would be greatly cheapened here if the use of terra cotta pipe was permitted. He declared that a delegation of master plumbers and others recently appeared before a committee of the Legislature at Harrisburg and they had left the impression that they represented the building interests and others interested in building extensions in Pittsburgh. This, Mr. Cochran contended, was in error. Sidney F. Heckert of the Building Code Commission told the council that excavations made at Pompeii showed terra cotta pipe nearly 2,000 years old to be in good condition. The Pittsburgh council will give further discussion to the subject, as it is claimed that Pittsburgh has been discriminated against for years in this respect, namely, the prohibition of the use of terra cotta pipe for cast iron pipe. Elsewhere thruout the state the use of terra cotta pipe for such purposes in buildings has never been questioned. The outcome of the present situation is being watched with considerable interest among builders and by the terra cotta pipe manufacturers especially.

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Nearly a Century Old and Still Perfect— It's Clay, of Course

The imperishability and longevity of clay products are universally known but not always remembered or appreciated. When it is made of clay, it is made to last—of

this there can be no question, for many notable specimens constantly confront us and offer a positive argument of the exceptional utility and value of ceramic wares of all kinds—pottery, tile, brick and so on.

A highly interesting example of the extended life of clay production of American origin is shown in the accompanying illustration, which sets forth a piece of tile pipe formerly in use on the Morris Aqueduct in New Jersey. This specimen is about 18 inches long and approximately 4 inches in diameter at the base. Its history can well be explained in the words of Clyde Potts, a well known engineer in this section, who made an investigation to ascertain the approximate age of the pipe. He says:

"This piece of pipe we dug up at the corner of Pine and South Streets in Morristown, N. J., during the construction of the sewerage system and was a part of the old water distributing system owned by the Morris Aqueduct. This pipe served as a connection for the wooden mains in the streets to the various houses. The Morris Aqueduct was incorporated in 1799 and this piece of pipe was no doubt used as far back as 80 years ago, altho there was no record in the office of the Aqueduct Company as to the time when this pipe was used."

This historical sketch is typed on paper and pasted on the pipe, as will be noted in the illustration. The specimen is in a remarkable state of preservation, as good as the day it was made, but of course, obsolete in type for present day service. Even the thumb marks of the workmen who made the pipe are visible on the outside surface.

The pipe is in the possession of John M. Campbell, Passaic, N. J., president of the Campbell-Schultz Co., one of the leading dealers in mason building materials in this section. Mr. Campbell keeps the specimen at his office and not only uses it as an interesting curio, but as a real and undisputed argument of the value of clay drain and sewer pipe. He says that he has no trouble in making a big impression of the service and advantages to be derived from such installations thru showing this specimen, particularly where cast iron and other pipe is being considered by municipal authorities.



Piece of Tile Pipe About Eighty Years Old; As Good as the Day it Was Made.


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The Standard Brick Co., Grand Rapids, Mich., which took possession of the plant of the defunct Grand Rapids Brick Co., in April, is running full capacity now and anticipates a large home business this season. C. G. Easley is manager of the concern.

Nationally Advertised FIRE BRICK

The Building Supply
Dealer's Opportunity

The Literary Digest for May 17, 1919.



The Foundation of Industry

Do you know the world is dependent on Fire Brick and similar refractories, as primary products on which the production of others rests?

Some Users of Our Refractories

- Automobile Mfrs.
- Bakeries and Bake-Oven Bldgs.
- Boiler Mfrs. and Users
- Chemical Mfrs.
- Copper Smelters and Refiners
- Crucible Mfrs.
- Food Mfrs.
- Gas Producers
- Glass Mfrs.
- Iron and Steel Mfrs.
- Lumber Mfrs.
- Machinery Mfrs.
- Oil Refiners
- Packers
- Paper Mfrs.
- Public Utilities
- Railroads
- Refractory Mfrs.
- Steel and Iron Mfrs.
- Vitrified Clay Product Users
- Zinc Smelters

For example, steel, iron and the other metals of which locomotives, street cars, motor vehicles, machinery, tools, agricultural implements, and thousands of similar products are made, must first be treated in furnaces lined with refractories. Glass is melted in refractory pots and tanks. Not a steam power plant could operate but for the fire brick which form its boiler settings. The production of our food and clothing—our whole scheme of living—is dependent to a large degree upon refractories.

Where could utter dependability be more essential—more vital—than in these heat-resisting fire brick?

Dependability has been the keynote of LACLEDE-CHRISTY Fire Brick and other Refractories for over 70 years. That's why they are used by thousands of concerns, of every size and description, for every conceivable purpose. LACLEDE-CHRISTY Refractories are indeed the foundation of industry.

Whatever your requirements are, our broad knowledge and experience insure your getting exactly the right Refractory for the particular purpose.

Distributors in 87 Cities

Branch Offices: Chicago, 1366 Peoples Gas Bldg.; New York, 504, 50 East 42nd Street Bldg.; Pittsburgh, 901 Oliver Bldg.

LACLEDE-CHRISTY

A BUSINESS INSTITUTION — FOUNDED 1844 — ST. LOUIS

This full page ad appears in the May 17th issue of The Literary Digest.

Selling Fire Brick and other Refractories is profitable business for you at all times, but when you can sell a *Nationally Advertised* brand of Fire Brick, made by one of the oldest and largest companies in the country, it is obvious that the opportunity of a lifetime is before you.

LACLEDE-CHRISTY Refractories represent that opportunity. They have over 70 years of experience behind them. They are "quality" through and through. They are used year in and year out by thousands of our leading industries. And they are backed with powerful, dominant National Advertising.

Note the attractive ad pictured above. Other equally as strong ads will follow—in the leading publications of America. Besides that, attractive direct mail matter goes regularly to many thousands of prospects.

Our dealer-distributors are all going to make some real money this year with LACLEDE-CHRISTY Refractories. We still have certain territory open, and if you are interested, write or wire immediately for full particulars of our plan.

Branch Offices: Chicago, 1366 Peoples Gas Bldg. Pittsburgh, 901 Oliver Bldg. New York, 504, 50 E. 42nd St. Bldg

LACLEDE-CHRISTY

A BUSINESS INSTITUTION — FOUNDED 1844 — ST. LOUIS

Laclede-Christy Create New Business

Laclede-Christy for the past few years have had all the business they could take care of, supplying the steel and allied industries with fire brick. Nevertheless, they recognize the desirability of always pushing ahead for new markets.

Recently they planned an advertising campaign *to create new business*. The preceding page reproduces one of several full page ads now running in Building Supply News.

Why did Laclede-Christy select Building Supply News? Because—

Building Supply News helps the manufacturer to create a new market. The building supply dealers, who constitute the readers of Building Supply News, already have strong sales organizations that supply a big demand for clay products — fire brick, building brick, tile, sewer pipe, etc. In selling thru this outlet, the manufacturer builds up a stronger, more permanent, and more profitable market for the sale of his burned ware.

Building Supply News is the only publication that covers the building supply dealer field exclusively. Building Supply News is read and has the confidence of these dealers, who are a tremendous buying and distributing power for all kinds of clay products.

If you manufacture any kind of clay product, if you want to find a quick and profitable market for its sale, why don't you advertise in Building Supply News? Rates and sample copies on request. But DO IT NOW while the buying season is at its height.

**BUILDING
SUPPLY NEWS**
610 Federal Street, CHICAGO

Ask for a copy of our June issue. Send along some of your literature and our Service Department will send you copy suggestion for our next issue which goes to press July first.

SECRETARY of AGRICULTURE *says that* HE IS NOT *in* FAVOR of SEPARATE FEDERAL HIGHWAY COMMISSION

SECRETARY HOUSTON, in response to a communication from a city Chamber of Commerce requesting his view regarding the creation of a Federal Highway Commission and the wisdom of taking the Federal supervision of highways from the Department of Agriculture and placing it under such a commission, has sent the following reply:

"I have your letter of May 2 in which you state that your Chamber of Commerce has been asked to adopt a resolution calling on the Congress of the United States to create a Federal Highway Commission and that you note that such resolution has been adopted by a number of commercial organizations, including the United States Chamber of Commerce. You ask for an expression of my views on the matter and particularly whether, in my opinion, it would be wise to take the Federal supervision of highways from the Department of Agriculture and place it under such a commission as that proposed.

FEDERAL AID BEING EXTENDED RAPIDLY

"Before expressing my views, it might be well for me to point out certain fundamental considerations which should be borne in mind in determining any sound policy of highway administration and development: (1) The roads in each section of the country are of varying degrees of importance in the service which they render or may render to the particular locality, to the State, and to the Nation as a whole; (2) This is a big country and the traffic conditions and needs vary greatly from section to section; (3) The State Highway Departments, being in immediate touch with local conditions, are best to classify the roads properly on the basis of the economic purpose which they may serve; (4) The Federal Government, under the present Bankhead Federal Aid Road Act, is cooperating in the improvement of the roads of greatest importance, the classification of which is fixed by the State Highway Departments; and (5) When this classification has been carefully made and by agreement between the highway departments of adjoining States, the roads of first importance generally meet at State boundaries, and, therefore, become interstate highways of nation-wide utility. The Federal Government, under the present law, is aiding the State highway departments in the classification of their roads on the basis of importance and needs, and Federal aid is rapidly being extended for their improvement, on projects submitted by the States and approved by this Department.

"Having these points in mind, I have been unable to see the need for the creation of a separate Federal Highway Commission or the wisdom of substituting for the present cooperative program a plan which would commit or limit the Federal Government to the construction of two Federally owned and maintained trunk lines in each State of the Union. There was a bill introduced in the Senate of the United States on February 13, 1919, embodying these suggestions. This proposed legislation provides for a Federal Highway Commission of five, each receiving a salary of \$10,000 a year, whose duty, among other things, would be to establish, construct, and maintain a system of highways 'to comprise not less than two main trunk line roads in each State, and joining the National Highway System in the adjacent States and countries.' The Commission is

given the power to select the trunk line roads to be constructed after having requested the State Highway Departments to recommend routes. The Federal Government is to assume the maintenance of these roads. The Commission is furthermore empowered to take over the work of all existing Federal agencies relating to highway transportation and 'to purchase, lease, rent, operate, and maintain such motor and other transportation facilities as it may deem necessary in performance of its duties under this Act.'

WAR INTERFERED WITH BANKHEAD ROAD ACT

"In July, 1916, the Bankhead Road Act was passed. It provided appropriations out of the Federal Treasury, to be matched by equal sums from the States, for the construction of roads, and provided further that no State should receive any of the money appropriated unless it had a highway department with adequate powers. The law placed the administration of the Act in the hands of the Secretary of Agriculture, in cooperation with the 48 State highway departments. It was enacted only a short time before we entered the European war and its operation was necessarily greatly interfered with by the disturbed conditions. There were also certain features of the law that made its smooth administration difficult. After the cessation of hostilities, with the approval of the President, I requested Congress to make a large additional appropriation to aid the States in highway construction and also to make certain amendments to the law, the necessity for which experience had demonstrated. Congress, thru the Bankhead amendment to the Post Office Appropriation Bill, provided an additional appropriation of \$209,000,000 and substantially made the amendments suggested.

"Under existing legislation, there is no special obstacle, so far as I can see, to the construction, in the different States of the Union, of those roads which serve the greatest economic needs. In the first place, the definition of the kind of roads that can be constructed has been greatly broadened and, in the second place, the limitation on the Federal contribution for any one road has been increased from \$10,000 to \$20,000 a mile. Following this legislation, the regulations governing the administration of the Act and the standards for plans, specifications, and estimates have been modified and one of the most successful former State highway engineers in the country has been placed in immediate charge of the Federal Aid Road work. He has at his disposal a considerable staff of local and district engineer aids and no pains will be spared to provide any further Federal assistance that may be needed. The machinery provided by the Bankhead amendment includes not only the Federal Bureau of Public Roads, one of the largest and most effective organizations of its kind in the world, but also the 48 State highway departments, the two agencies working in close cooperation. It is also a part of the plan to have an advisory committee, composed of representatives of the State Highway Departments, selected by the American Association of State Highway Officials with due regard to geographic considerations, to work in intimate touch with the Federal Bureau, meeting with its officers at stated periods and at such other times as may be necessary. This machinery, in effect, is an expert national commission intimately in touch thru its various parts with all

sections of the Union, having no other purpose than that of serving the public interest. It is difficult to see what need there can be for additional machinery.

SELECTION OF ROAD UP TO LOCAL AUTHORITIES

"Very properly the Bankhead Act places on the highway authorities of the several States responsibility, in large measure, for selecting the roads to be constructed. Obviously, the local authorities are in a better position to judge what roads would serve the largest economic needs than any group of men sitting in Washington would be. It is the duty of the Federal Bureau, with its district engineers, to see that the provisions of the law are complied with. It is giving, and will continue to give, all possible assistance to the State authorities in all their technical problems, as well as in the planning of State systems and in the classification of roads. It has been the policy of the Department from the outset, in order to prevent haphazard action, to have the State highway authorities prepare and present tentative State systems of roads. It was apparent that a rigid system, not subject to modifications as conditions might require, would be inadvisable. Each State authority has worked out a system and, in general, it is being followed in the development of projects and the construction of roads. In a number of instances systems in general terms have been adopted by State legislatures. Of course, in formulating these systems, the engineers gave due regard to interstate connections, that is, to roads connecting the system of one State with that of another, and it is difficult to see why, as progress is made, the construction of thru roads will not follow as a matter of course.

"It seems scarcely likely, in view of the fact that nearly \$300,000,000 are now available out of the Federal Treasury, that the Congress, in the light of the financial situation, will make additional large appropriations; and it would be impossible, without creating many complications, to divert the existing appropriations from the purposes and plans already under way under the cooperative arrangements with the States. A considerable part of the available appropriations has already been formally tied up under agreements with State departments and contracts for large sums have been let. Additional large amounts are being pledged monthly. Every State has accepted the Federal Act and many of them have by law directed its agencies to cooperate with the Secretary of Agriculture. A number of the States have large sums available for cooperation, in many instances much in excess of what is necessary to meet the requirements of the Federal Act, and other States are preparing greatly to increase their appropriations. These State laws and arrangements cannot easily be changed and perhaps would not be. After the original act was passed, more than a year elapsed before many of the States were able to secure legislative action which would enable them to comply with the Federal law and to begin the construction of roads. With the passage of the amendment carrying a large additional appropriation, there arose a necessity for further legislative action in some of the States. It seems to me that, instead of asking for more or different legislation, we should now proceed actively and vigorously with the construction of roads under existing arrangements.

"I am convinced that nothing material would be gained by the proposed change. Much would be lost. As has been pointed out, many complications would be introduced. The creation of a Commission would entail unnecessary additional administrative expenditures and the Commission could not do anything that cannot now be done more effectively by the existing cooperative machinery. There would also be a radical change of policy. I do not think

that the people of the States will be willing to substitute for the present policy of developing roads on the principle of serving the largest economic purposes that policy advocated by those whose interest is in two main or trunk line automobile roads in each State, nor do I think that they would be willing, even if it were legal or practicable, to have existing funds diverted from the present or contemplated projects, worked out with the aid of the State highway departments, solely to the construction of such roads. The largest service will be rendered, not only to farmers, but, in the long run, also to urban people, by following the principle of constructing roads of the greatest economic importance, selected after careful consideration by the State agencies having adequate knowledge and approved by the Federal Department. It seems to me clear also that, as the work proceeds, we shall have roads which will be equally serviceable not only to those interested immediately in long distance automobile travel and motor truck transportation, but also to those interested in getting their farm produce to the market in the easiest and the most effective manner and in the transportation of the mails. I have no prejudice against any sort of road except a bad road, or against any sort of construction except wasteful and unsubstantial construction. If traffic conditions require heavy construction, then I am in favor of it; and in any case, under the law, the construction must be substantial.

SHOULD COOPERATE ON PRESENT PROGRAM

"The road construction movement is growing very rapidly. The Federal Aid Road Act has done much to promote it. It has stimulated financial aid and has caused many State legislatures to create central highway departments. Experience has brought about amendments to the law and helpful changes in administration. Comprehensive road programs have been inaugurated. They are being pushed vigorously. They will result, in a shorter time than most people imagine, not only in a net work of good substantial roads in the various States of the Union, but also in the requisite interstate highways.

"Why at this stage introduce complications and embarrassments? Why should not the friends of the movement for roads to serve the people cooperate? It is difficult for me to see why all who animated by high public spirit in their thinking concerning highways should not cooperate in the development of present programs and in the perfection of the existing processes and machinery, instead of attempting to overthrow them. I believe that many of those who are backing the proposed change do not know the facts and are not aware of existing conditions and possibilities. I believe also that their proposal stands very little chance of being enacted into law."



Cleveland Firm Holds Reception

An opening for the benefit of architects, engineers, home builders and others closely interested in brick house and building construction was held recently by the Cleveland (Ohio) Clay Products Co., in its recently completed show rooms in the Scofield Building. During the week several hundred persons visited the displays, and from now on the operations of the business may be said to be actually under way.

Among the items on display here are the Alliance ruff brick and tile, Gloninger & Co.'s water-proof brick, Upper Kittanning's grays and buffs, Martinsville Rustique Orientals, Kittanning Clay Products Co. mortar colors, Washington reds, genuine Harvard brick, Lookout mortar colors, the Brick Terra Cotta & Tile Co.'s terra cottas,

and others. A policy not hitherto announced, was made public this week when President Leo A. Krueger announced that no conflicting lines will be carried, and that the lines taken on will be exclusive, as far as this company is concerned.

The firm will continue the policy of advertising, with cuts, in local daily newspapers, in order to reach the home building public direct. Sales have been increased thru this medium in April over March, and May shows still further improvement.

Besides representing manufacturers, this firm will have an arrangement with local dealers, selling brick thru these dealers, and thereby guaranteeing prompt delivery, especially on small jobs.

Edward Brasch, formerly of the Hydraulic-Press Brick Co., and more recently with the United States Navy, has been appointed to the sales staff of this firm and M. B. Finn, formerly assistant traffic manager of the McKinney Steel Co., has been appointed traffic manager.



Advertising to Prevent Strikes

Raymond Robins, formerly head of the American Red Cross in Russia, said in his testimony before the senate recently that if the American workingman could be made familiar with all of the principles and social theories of Bolshevism, any lurking danger of the spread of this world cancer to America would be entirely eliminated. In other words, most of the Bolshevik sympathizers in the United States are misinformed. Here is an educational problem for manufacturers worth considering. But how can the necessary message be put across to the workmen? Carefully arranged plant meetings with good speakers, such as were found so effective during the war, would help immeasurably, but probably the most effective method of placing the facts regarding Bolshevism and its train of social travail before the American workingman quickly is by advertising, using newspapers, billboards and other mediums read by the masses.

The power of printers' ink, properly marshalled, to promptly suppress labor and social disorders has recently been vividly demonstrated in two remote parts of the world. In Seattle, during the so-called general strike, the substantial leaders of the community banded together to publish a series of advertisements giving the facts about the situation to the men involved. As a result, a series of powerfully written full-page advertisements have appeared in the local daily newspapers and other mediums. Their effect has been tremendous and on all sides it is acknowledged they have had a powerfully steadying effect on an extremely disturbed situation. Even more striking in their results were the advertisements recently published in English newspapers by the British government to explain its demobilization plans. Before these advertisements appeared several successive mobs marched to Whitehall to protest against the demobilization plans. Serious trouble was threatened. A series of strong advertisements was quickly prepared and published under the auspices of the ministry of reconstruction. As soon as the information regarding demobilization plans set forth in these advertisements percolated—and this took only a few days—the demonstrations ceased and none have been held since. In other words, printers' ink was used to lay the facts before the people promptly. This is the kind of propaganda that is effective. It is open, honest and above board. Such efforts can be made unusually effective in all industrial crises, provided only the advertise-

ments tell the truth and are published soon enough—before the mischief has gone too far.—*Iron Trade Review*.



Seven Million Workers Need Training

Upwards of 7,000,000 workers in this country have not had opportunity to become properly trained in their tasks, according to the United States Training Service, of the Department of Labor, the function of which is to promote industrial training in manufacturing plants in this country. The system of training which the Training Service advocates is one of upgrading workers by extending their knowledge of processes and increasing their skill. It devotes itself to raising the average output of poor and mediocre and fitting promising individuals for promotion.

These and many other facts equally pertinent to reconstruction problems, are set forth in a vest pocket bulletin entitled "Seven Million Candidates for Training," issued by the Training Service. This pamphlet shows that part-time and continuation training, splendid as it is, does not reach the great majority of the 7,000,000 workers referred to. They are already at their jobs and because of economic necessity cannot sacrifice time or wages to attend continuation classes. To meet this situation training departments in the shops and factories, maintained at the employers' expense, are urged as the most practical remedy. The publication referred to maintains that the training department idea has already demonstrated its great value for peace-time industry, and that the number of firms introducing training in their plants is growing week by week.

The task of the Government's Training Service is to provide interested manufacturers with expert advice in planning their training departments and to supply them with carefully prepared training courses. The bulletin referred to above and others on this subject can be had free of charge by addressing the United States Training Service, care of the Department of Labor at Washington.



Eastern Brick Men Hold Profitable Meeting

The Common Brick Manufacturers' Association of Eastern Pennsylvania, Southern New Jersey & Delaware held its regular monthly meeting at Allentown, May 8. Following a short business session, the party adjourned to Shankweiler's Hotel, Guthsville, where the members were tendered an enjoyable dinner by the local brick manufacturers, including the Swoyer Brothers Brick Co., the Lehigh Brick Works and the Ochs & Fry Brick Co. The local committee in charge included Dr. O. D. Swoyer and Mr. Titlow of the first noted company; Oscar Ochs and R. D. Siegfried of the Ochs & Fry company; and General Harry C. Trexler, W. F. Clark, George K. Mosser, Robert K. Mosser and A. S. Cunningham of the Lehigh company. Among those in the party were: Horace M. Siner, of H. M. and C. B. Siner, Philadelphia, president of the association; William Conway, Jr., Philadelphia, secretary; and James B. Oberly, Wilmington, Del., treasurer; Herbert Somers, Atlantic City, N. J.; Robert D. Hamilton, C. B. Siner, Edward Kelly, Joseph Byrone, John Major, Girard Seitter and John Early, all of Philadelphia; William Fields, Chester; William Cahill, Trenton, N. J.; W. Reeve, Camden, N. J., Mr. Bieber, Kutztown, and Frank Gary and Louis Halberstadt, both of Reading, Pa.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Power Lost in Shaft Bearings

One hardly realizes the amount of power lost in transmission. The turning effort required for the belting and shafting alone consumes a large proportion of the power which is received from the source and is to be transmitted to the machines. This loss may amount to twenty to eighty per cent. It is interesting to know the relative amounts of power required to overcome the friction of various types of shaft bearings.

Tests made on shafts with babbitt, roller and ball bearings on the same shaft show interesting results. The following table gives the relative amount of power consumed in friction by the three kinds of bearings at the speeds and temperature stated. In the comparison the power required to overcome the friction of ball bearings is given as unity.

	Ball	Roller	Babbitt
100 f.p.m.-77	1	2.2	3.0
100 f.p.m.-100	1	2.5	3.6
300 f.p.m.-77	1	2.7	4.5
300 f.p.m.-100	1	3.0	4.0

It will be noted that the power required for babbitt is higher than that necessary for the other bearings and the power for roller is higher than for ball bearings. The excess of power required for babbitt over rollers and for rollers over balls increases with increase of speed for all loads.

Tests made under extremely heavy loads to determine the breaking down point of the bearings gave the following results: Babbitt failed at a pressure of 4,250 lbs. per bearing; balls at 4,650; and rollers at 51,00. The failure was not structural but was manifested in the breaking down of the lubricant which resulted in an immediate increase of the power required to maintain the original revolutions per minute of the shaft in the bearings.



Aid in Drying Clays

To dry tender clays, the chief requirement is to use air fully saturated with moisture to raise the temperature of the ware to that at which drying may most suitably take place. As long as the air used for this purpose is sufficiently moist, no drying or cracking can occur. When the clay is at the correct temperature, the moisture content of the air used may be reduced in gradually increasing amounts until the ware can stand the strain caused by the addition of dry air to its environment. In this way, the most tender clays may be satisfactorily dried in a comparatively short time.

One method of keeping the air around the brick sufficiently moist is to heat them in a closed chamber, air being admitted very cautiously only after a temperature of 100 deg. C. has been reached. Instead of using a closed chamber it is

often sufficient to cover them with wet canvas and to cover this with tarpaulin until they are fully heated. The tarpaulin may then be gradually removed, and afterwards the canvas too. This principle is simple of adoption in almost any factory, even where the output is not sufficient to warrant the installation of a tunnel dryer.

In these ways the moisture is sweated out with a minimum of air and consequently the liability to damage is at a minimum, shrinkage is made regular, and warping and cracking are avoided. The addition of sand, burned clay or other non-plastic material will also frequently convert many tender clays into safe drying bodies. It does this by separating the particles from one another and so increasing the pore spaces. Mixing clays with hot water instead of cold during the pugging or tempering process, has a similar effect, and in addition causes the brick to harden slightly as they cool before entering the dryer.



Suggestions for Meeting Drainage Problems

The drainage problem in clay pits is in most instances a serious one. Often a layer of hard pan, tight clay, or other impervious material holds up the water and prevents its percolation into an underlying stratum of pervious material which would drain it away. A solution to this problem is to use dynamite to shatter the impervious material. If it is a stratum of plastic material, a hole similar to a deep pole or post hole can be blasted thru it by distributing the dynamite along the bore hole. The blasted hole should then be filled with loose gravel, boulder fragments or other rubbish to keep it open and furnish a drainage channel for the water.

For such conditions where vertical drainage such as described above is not feasible, it may be necessary to install pumps to raise the water out of the pit. In this event it is essential to form ditches to conduct the water to the pump. Such ditches are easily and economically formed by sinking vertical holes along the center line of the proposed ditches and exploding the dynamite charges simultaneously. This makes a V-shaped ditch and has the advantage for this kind of drainage that there are no high spoil banks along the sides which prevent the entrance of the water, for the sand, muck and clay are lifted high into the air and deposited over a considerable area.



A good many of the old country plants in Kentucky that have been down for the better part of the past three years are beginning to operate again, and some of the brick yards that have been practically closed down are again in operation. There is an especially good demand out in the country, with the result that many of the general supply houses and country brick yards are doing a good business.

Frank R. Clark, of the Georgia Vitified Brick & Clay Co., Augusta, Ga., was a recent business visitor in Brunswick, Ga.

FIRE BRICK

DOVER FIRE BRICK CO.

Incorporated 1870

Manufacturers of North Bend, Dover and Buckeye Brands.

GROUND FIRE CLAY

Unexcelled for Kiln Purposes

509 Cuyahoga Bldg.

CLEVELAND, OHIO



Simple, Strong, Safe

There's the story of a Caldwell Tubular Tower. So simple that you can erect it yourself. So strong that it will endure cyclones and tornadoes. Conforms strictly with approved engineering principles. The cost is moderate. *Send for Catalogue*

W. E. CALDWELL CO., Inc.
2380 Book Street Louisville, Ky.

Caldwell
TANKS
AND
TOWERS

We Specialize in Bonds on Clay Properties

We Arrange for Their Issuance and Sale

We have rendered aid to many clay product manufacturers desiring to expand and improve their properties.

Write Us—Perhaps We Can Help You

F. W. MORGAN & CO. 1st National Bank Bldg
CHICAGO, ILL.

RICKETSON'S BRICK COLORS

Rich, Even Tone **YOU CAN'T FADE 'EM** They Go Further

"Ricketsen Brand" Mortar Colors are specified and used because they are absolutely true to tone and mix easier than ordinary brands. Write to

RICKETSON MINERAL PAINT WORKS Milwaukee, Wisconsin

We Can Save You Time, Money and Trouble on Fire Brick

BECAUSE OF

Quality, Price and Service

Freight Rates on all R.R.'s in UNITED STATES and CANADA

A Trial Shipment Will Convince You. *Write Us*

ALSEY BRICK & TILE COMPANY

ALSEY, ILL.



Hay and Straw For Packing

JAMES A. BENSON

Telephone L. D. 164

192 N. Clark St.

CHICAGO

"Shipments Anywhere in the United States"

QUESTIONS

A Three Cent Stamp May Bring You Advice That Will Stop a Waste, Improve Your Ware or Lower Your Production Cost

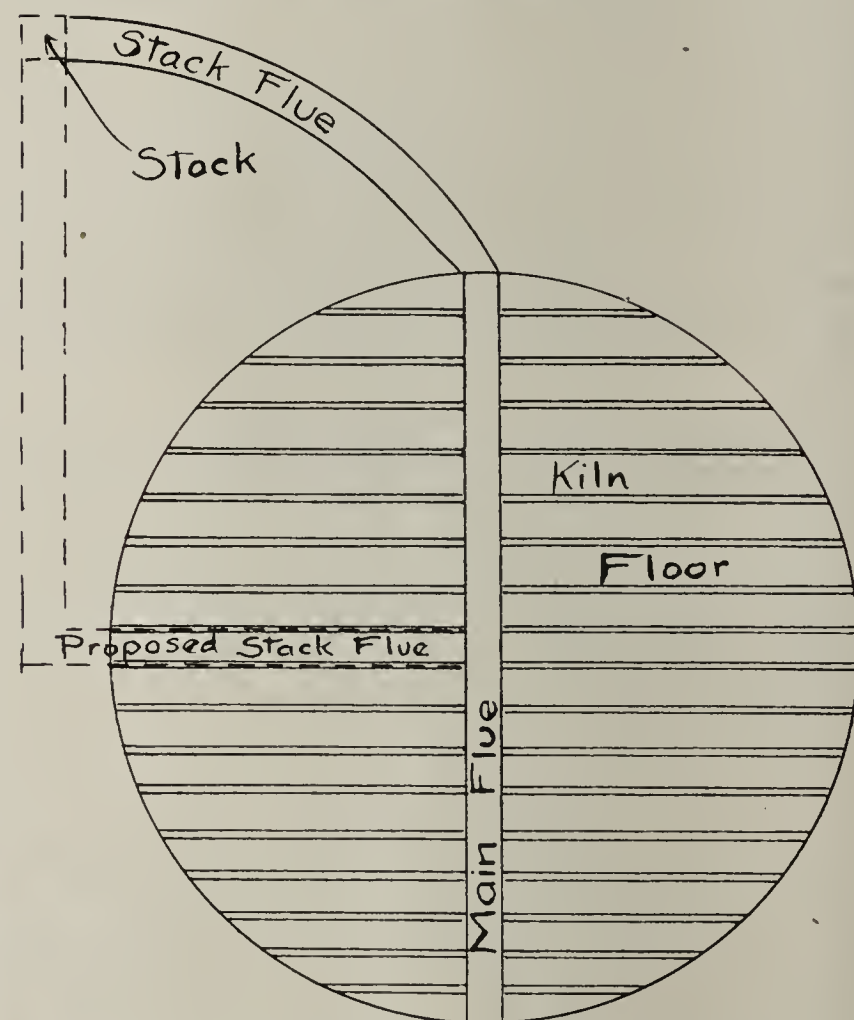
Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Has Trouble With Draft

911. Iowa—I would like to know just what kind of a flue system is required in a kiln to produce the best draft conditions. We have had considerable trouble because our flue system has been constructed incorrectly. The main flue runs straight thru the center and from one end of which the stack flue is connected. The small distributing flues are at right angles to the main flue.

There is a tendency to draw all the heat away from that part of the kiln opposite the stack. Is this caused by having the kind of flue construction that exists or is it because our stack draft is improper?

We submit herewith, a sketch of our kiln and stack flue, and would thank you for any information you can give us that would aid us in correcting our difficulty.



Showing Old Arrangement of Flues and Proposed Construction That Would Aid in Getting Better Draft Control.

After studying your sketch, we do not at all wonder that you have had difficulty in obtaining a good draft in your kiln. Instead of having the stack connected as you do, it would be much better to have a stack flue built at right angles to your main tunnel. This then would give you a much better control of the draft in the kiln. This construc-

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

tion is indicated by the dotted lines on the sketch you have submitted. If you will follow this suggestion, we are quite sure you will have an even distribution of draft thruout your entire kiln.

It may be possible that it is not necessary to go to the expense of making this alteration. We would suggest that you first try placing brick in those cross flues in which the draft is greatest. In this manner you will cut down the draft in those flues in which the draft is strongest and hence obtain a more even control of your burns. However, if this method fails, it undoubtedly will be necessary to make alterations such as we have suggested. The size of the stack flue will depend upon the size of your kiln. For aid in this construction we would recommend that you refer to page 869 of the May 20 issue of *Brick and Clay Record*.

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Has Trouble With Cracking of Ware

910. *Pennsylvania—We are making small tile and fire brick with fair results but whenever we start to make large size pieces from the same clay, we have trouble in cracking and breaking. Is it necessary to mix ground burned brick with the clay so as to obtain a good body for the large size tile?*

In order to overcome cracking in drying your large ware you may have to attack the proposition by either changing your drying methods or by altering the composition of your body. In drying large clay products, it is essential that proper humidity and temperature control be maintained. Large pieces require very slow drying at a moderate temperature.

Undoubtedly the best way to solve your difficulty would be by the addition of grog. Grog is a term used for ground up burned brick or bats. This grog should be made preferably from the same clay of which the ware is formed. The per cent. to be added may vary according to the properties of the plastic clay and the requirements of the finished products, in proportions of from five to sixty per cent.

According to the data you have submitted in your question, we are reasonably sure that this is an obvious solution to your problem, and with a little experimenting in this direction, you will undoubtedly find that you will succeed in manufacturing large ware of good quality and with the elimination of drying difficulties.

After giving the above reply we received the following request from our correspondent:

We acknowledge with thanks the receipt of your reply to our inquiry of recent date regarding the overcoming of cracking of large tile. Will you please write us how to overcome the same trouble in burning these tile.



REPAIRS! Rush work! Its often the result of poor work. "Gone Again," a booklet for belting users, prescribes a remedy. Write for your copy today

CRESCENT BELT FASTENERS
"For Continuous Production"
 CRESCENT BELT FASTENER CO. 381 Fourth Avenue, New York, N.Y.

Blasting without using the CYCLONE DRILL

is like hunting deer with birdshot. You can't possibly get good results.

We are ready to offer you facts and figures to prove that the Cyclone Drill will soon pay for itself.

Write for Literature on Big Blast Hole Drilling

The Sanderson-Cyclone Drill Co.

ORRVILLE, OHIO

Reduce the chances of

FIRE

PREVENT

Vandalism

By equipping your watchman and burners with a

HARDINGE Watch Clock



You will save in insurance more than the cost of the clock system—to say nothing of the increased efficiency of your night force.

Write for details
Hardinge Bros Co., Inc.
 1760 Berteau Ave., Chicago, or
A. C. Rowe & Son, Inc.
 33 Reade St., N. Y. City



Drop us a Line

and get our latest illustrated catalog describing the celebrated

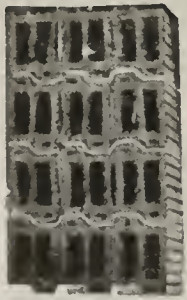
K-B Pulverizer

The All-Steel Hammer Mill

If you don't get out your pencil and do some interesting figuring on power costs you can save, you'll be the exception.

Send for book today

K B Pulverizer Company, Inc.
 70-72 Worth St., New York



"LOXALL" Popular Hollow Tile

is being licensed to manufacturers in the U. S. A. and Canada. It has earned the title of "Popular Tile" because it is easy to make, lay and sell, and is liked by the

Builder, the Mason and the Manufacturer.

If you are interested in this money making proposition, get in touch with us at once.

J. E. EXNER 507 Spruce Street, E.
Coffeyville, Kan.

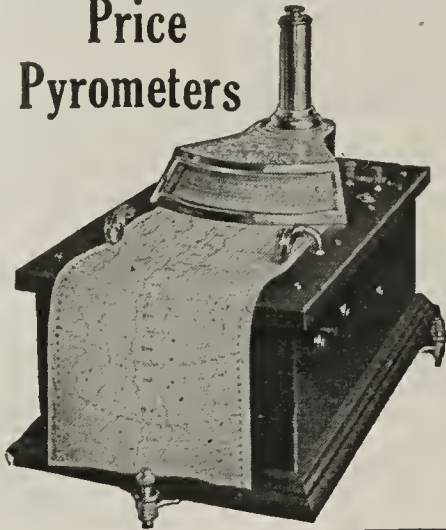
Many plants have improved their ware, saved time and saved lots of fuel with a Price Pyrometer.

Any one of these savings justify a Price Pyrometer on your kilns.

We want to tell you more about them. Write us to-day.

The Price Electric Co.
12367 Euclid Ave.
CLEVELAND OHIO

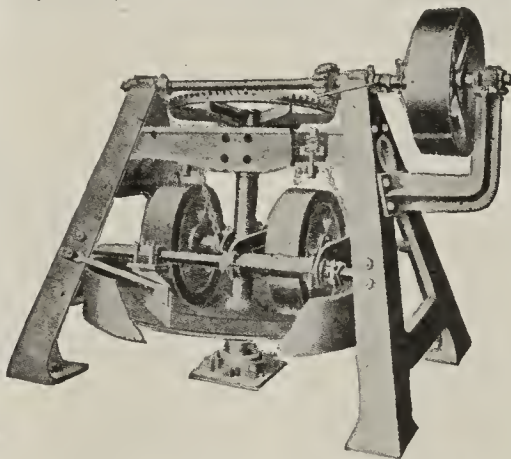
Price Pyrometers



THE EAGLE DRY PAN

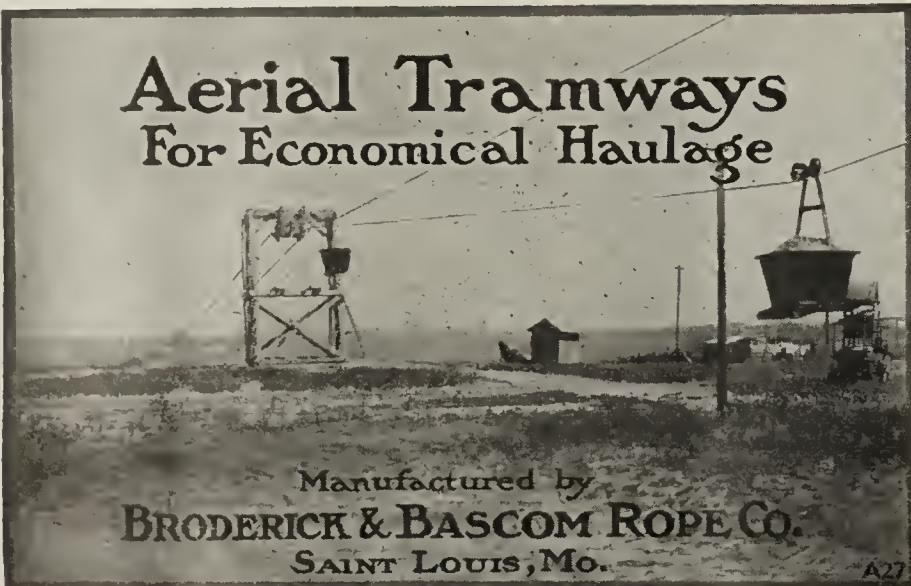
Write for Prices

EAGLE IRON WORKS DES MOINES
IOWA



Aerial Tramways For Economical Haulage

Manufactured by
BRODERICK & BASCOM ROPE CO.
SAINT LOUIS, Mo.



Your trouble in cracking is undoubtedly due to the same cause as the cracking in drying. We are quite sure that all the cracks that are found in your ware after it is burned originate during the drying period. If you will follow the suggestions we gave you in our answer to your first inquiry, we are sure that with the overcoming of the cracking in drying, the cracking in burning will also disappear.

Siliceous clays often give trouble in cracking in burning especially if the silica is in a fine state. However, clays containing as high a percentage as eighty-five per cent. of silica have been burned successfully.

If the difficulty you are experiencing in burning is due to the burning alone, then you may have to resort to a longer burning period and a slower cooling of the ware. However, we are almost certain that the difficulty you are meeting with in burning is due to the cracking of your ware in drying, which in turn, is without doubt due to the tight body you are using. We believe that by the addition of grog to your body you will eliminate both your drying and burning difficulties and we suggest that you attack the problem from this direction.

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Wants Brick to Burn Red

909. *Pennsylvania*—We are manufacturers of common red shale brick. Our material burns a light color, in fact, our hard burned brick are often taken for a soft or salmon brick. Can you suggest a compound that would be economical to mix with our clay in order to obtain a better color?

It may be possible to produce a red burning brick by the addition of iron in the form of hematite ore in sufficient quantities. However, this chemical would have to be ground extremely fine and be thoroly disseminated thruout the clay mass in order to obtain good results. To do this operation would be quite expensive, and hardly economical.

We do not have much confidence in the chemical treatment of a buff or salmon burning clay to produce a red color. In some instances we believe it may be possible to produce a good colored brick by obtaining some red burning clay and mixing it with your shale in such proportions that a red brick would result. Possibly, if you will search your locality you may find a red burning clay which it would be possible to haul in motor trucks and add to your shale to produce the color of the brick you long for. Whether this would be economical or not would depend upon the quantity of this type of clay that it would be necessary to add, the condition of the clay deposit, and the distance and ease of hauling this material. Of course, it is obviously essential that the addition of such a clay should not destroy any of the good physical properties of the brick.

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Pamphlet of Assistance to Plant Managers

If you will write to the Director General of the Working Conditions Service, Department of Labor, Washington, D. C., you may obtain a booklet entitled, "Treatment of Industrial Problems by Construction Methods." This pamphlet treats on methods to reduce labor turnover and to bring about a wholesome stability in productive forces. The Working Conditions Service offers a constructive plan for reducing industrial accidents and sickness and for developing good will between workers and management.

IN *the* WAKE of *the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Personal

Emmet Howard, head of the Columbus (Ohio) Brick Co., was called to the northwestern part of Ohio recently on business.

W. H. Bryam, formerly manager of the Reliance Brick Co., of Tulsa, Okla., has accepted the position of manager for the Southwest Building Supply Co., of Springfield, Mo.

M. J. Bannon, head of the P. Bannon Pipe Co., Louisville, Ky., made an automobile trip with a party of army officers to Mammoth Cave, Ky., recently, but was held up for two days on account of rain, and "very rotten" roads.

T. W. Gill, of the Laclede Christy Clay Products Co., has returned from service overseas, it was reported at the St. Louis office of the company, and he has returned there to take up his former position.

At the recent meeting of the board of directors of the Chamber of Commerce, Atholl McBean, of Gladding, McBean & Co., San Francisco, Cal., was elected president of the organization to succeed Frederick J. Koster.

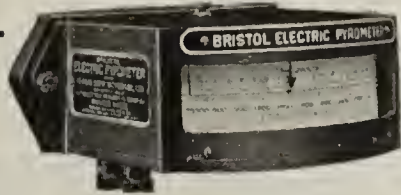
Leo A. Krueger, president and general manager of the Cleveland (Ohio) Clay Products Co., has spent the latter part of May in Pittsburgh, Pa., and Alliance, Ohio, calling on the trade. He reports excellent progress for brick outlet in these districts.

Two members of the office force of the Blackmer & Post Pipe Co. returned to St. Louis from France recently and are now in their former positions. First Lieut. P. R. Blackmer, a director of the company and brother of L. G. Blackmer, president of the concern, also has returned to St. Louis after having been honorably discharged.

S. H. Alsip has been engaged as superintendent of the plant of the Hydraulic Press Brick Co., Menomonie, Wis., the offices of which concern are in Minneapolis, Minn. The company reports business as being good. Almost all of their old crew is now back at work and they are trying to develop a greater demand for their products in their present market.

E. S. Barkwill, president of the Barkwill-Farr Co., Cleveland, Ohio, shot and seriously wounded a burglar as he was emerging from an adjoining room in which Mr. Barkwill was sleeping in the Barkwill home, on May 19. It is reported that several apartments in the same neighborhood were entered and \$1,000 in jewelry taken, during the same night.

Howard B. Moses, a former prominent resident of Trenton, N. J., died in San Francisco, Cal., early in May. For many years, Mr. Moses was engaged in the pottery business with his father, John Moses, who founded the old Glasgow Pottery on Carroll Street, acting as sales manager for the concern and in charge of New York City trade. He took up a residence in California about



BRISTOL'S PYROMETERS

For Indicating and Recording are particularly adapted to high sustained temperatures, where the value of entire burns are dependent on correct readings.

They measure up to the high standard maintained by Bristol's Instruments for over a quarter of a century.

Write for bulletin AE-205

THE BRISTOL CO., Waterbury, Conn.

Savings That Pay Dividends

I can save the average Brick Manufacturer enough in fuel to more than pay for my services. And can get him a high grade of ware that will enable him to command a better price than he has been in the habit of getting for kiln run.

Let me prove it. Write now.

HARRY V. MASON

Pyrometer-Expert and Kiln Specialist

Clays Tested.

1153 49th Avenue

Trial Burns

PORTLAND, ORE.



"Good as Ever" after 2½ years' service

On September 7, 1916, we shipped some of our No. 18 Union Steel Chain Belting, which operates on standard No. 88 sprockets, to the Haviland Clay Works, Haviland, Ohio. On March 5, 1919, we shipped them new pins for this chain, and have just received their letter, stating:

"We received the pins and cotter, and after re-pinning the chain, in use so many months, it gives as good service as ever. Your chain fills our needs exactly."

Write us for details which show how these Trouble Proof chains can fill your needs exactly.

THE UNION CHAIN & MFG. CO. Seville, Ohio

Leschen Wire Rope

We make Wire Rope for every wire rope service. If you will tell us how you use Wire Rope we shall be glad to suggest the correct rope for the work.

Established 1857

**A. Leschen & Sons
Rope Company
St. Louis, Mo.**



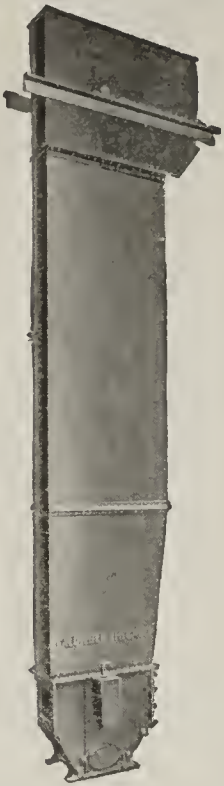
RED STRAND

New York Chicago
Denver San Francisco

ELEVATING MACHINERY

FOR BRICK & CLAY PLANTS

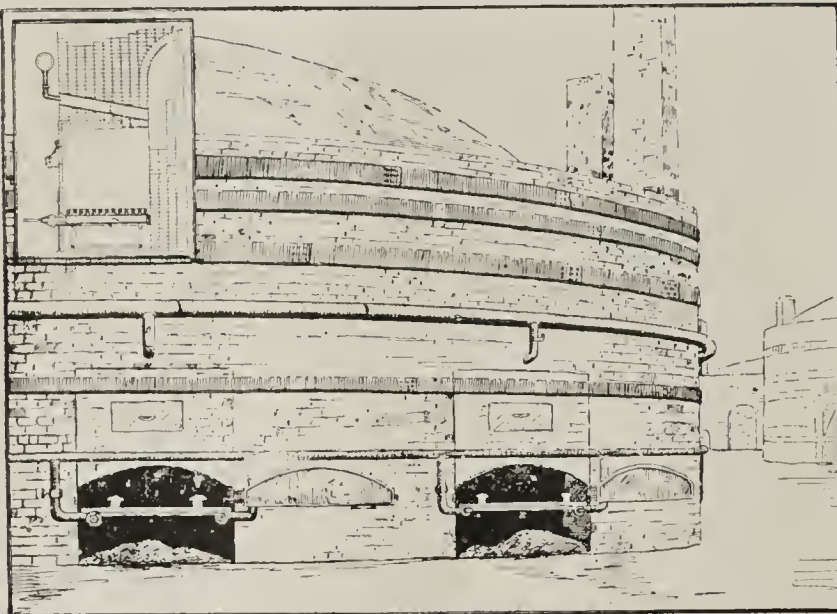
Complete bucket elevators with or without steel casings, buckets fitted to chain or belt. Shelf buckets, standard steel buckets, malleable buckets,—chain, etc.



H. W. CALDWELL & SON CO.
CHICAGO, 17th St. & Western Ave.

NEW YORK
50 Church St.

DALLAS, TEX.
709 Main St.



The Furnace Gas Producer

Saves Time—Saves Fuel—Saves Labor.

Summary of Official Tests of Fuel Expert Graham of Dayton, Ohio.

- | | |
|---|--|
| 1—Practically Smokeless. | 4—Ability to burn any kind of coal economically. |
| 2—Absolute control of draft conditions during light load periods. | 5—Economy of operation. |
| 3—Ability to develop more than nominal rating when necessary. | 6—Gain of 26% in efficiency. |

Extract from letter of Mayor Switzer of Dayton, who has the FURNACE GAS-PRODUCER installed under boilers at his factory.

"We believe that you have a good grate and trust that you will be as successful in future installations as you were in this one."

We are installing the Furnace Gas Producer Method for The Crescent Refractories Co., Curwensville, Pa. Ask them. Write for complete data and information.

FURNACE GAS-PRODUCER CO.

J. T. UNDERWOOD, General Manager
DAYTON Makers of "NOSMO" Products OHIO

twelve years ago. His body has been brought back to Trenton for burial.

Word has been received in St. Louis from Joel H. Blackmer, formerly of the Hydraulic-Press Brick Co.'s sales department, that he will arrive in St. Louis within a few weeks. Mr. Blackmer has just reached New York from France where he drove an ambulance with the A. E. F. in several of the lively sectors. He is one of the best known St. Louisans in the brick industry. He enlisted in November, 1917, and has spent eighteen months in foreign service.

Horace Purinton, treasurer and senior member of the Horace Purinton Brick Manufacturing Co., which operates plants at Waterville, Augusta, Showhegan, Bangor and Mechanics Falls, died at his home in Waterville, Me., on May 15, aged 69 years. Mr. Purinton was a native of the Pine Tree state and for many years was a leading contractor, building numerous large brick structures in various sections of the state. He was a leader in the Republican ranks and served for a time as mayor of Waterville. Mr. Purinton also was prominent in religious circles. According to F. A. Meader, superintendent of the Purinton brick yard at Showhegan, who conferred with other officials after the funeral of Mr. Purinton, the business will be continued along the same general lines. The Purinton brick business is one of the oldest established in the state of Maine.

Alabama

The Decatur (Ala.) Brick Co., which suspended operations during the war, has resumed manufacturing and will make a run of 3,000,000 brick at once, it is said.

The Childersburg (Ala.) Brick Co., Inc., has filed articles of incorporation. The authorized and paid in stock is \$10,000. The incorporators are: L. W. Claridy, W. H. Claridy and O. W. Claridy.

California

Hollow tile is to be used in the construction of a residence to be built by T. L. McLaughlin at Beverly, Cal. The estimated cost of the home is \$65,000.

William Koenig, of San Francisco, Cal., is to erect a two-story brick loft building at Fourth and Welch Streets at an estimated cost of \$19,000.

Plans are being figured on a two-story and basement brick addition to the Oroville courthouse. About \$12,000 is to be spent on the improvements.

Plans are being prepared for alterations to a two-story brick store and hall building at 2123 Powell Street, San Francisco. The cost will be in the neighborhood of \$6,500.

About 23 miles of pipe line is required for the installation of a water distribution system for the Hansen Heights district, Los Angeles, Cal., and the Council has set a date for a special election for the purpose of raising the necessary \$15,000.

Plans are now being drawn for alterations to the Commercial Trust & Savings Bank of Santa Barbara, Cal., calling for the use of tile and marble for the floors and pressed brick for the front of the building with marble and terra cotta trims.

A considerable amount of Spanish tile, terra cotta and brick is being used in the construction of the new school buildings in the Fresno (Cal.) district. Ernest J. Kump, architect of that city has prepared the plans for the

schools for Tranquillity, Claremont and Oil King districts, entailing an expenditure of at least \$150,000.

With building activities still on the increase thru the entire state, as yet there is little additional business reported among the northern California brick and other clay products manufacturers. The offices in San Francisco still seem to be waiting for the return to normal conditions and while there is stimulation in some lines of the industry, a comparatively small amount of clay materials for structure building is being moved at the present time.

Gladding, McBean & Co. are now operating their rebuilt pottery plant at Lincoln, Cal., and are employing a large force of men. J. B. DeGolyer, superintendent of the terra cotta department, states that the department will soon be in need of pressers, mold makers, kiln setters and general helpers, for the terra cotta branch is starting in on several contracts which were delayed by the war and the fire at the plant last July. The company has announced willingness to give positions to all returned employees who entered the service.

The kilns are now completed at the plant of the McKnight Fire Brick Co., at Porterville, Cal., and the management has announced that production of chrome and magnesite brick will be started within the next few days. Prior to the war, practically all the brick of chromite, magnesite and silica shale, used for furnace linings, were imported from Austria and J. L. McKnight, the superintendent of the Porterville plant declares that the Austrian processes have been worked out successfully and there is now no reason why the American market cannot be supplied with California products.

For the purpose of urging amendments to the present building ordinance which limits the heights of class C buildings to four stories, the members of the Los Angeles Brick Manufacturers' Association appeared before the Public Safety Committee of the Council recently. The manufacturers ask that the ordinance be changed to correspond to the state law which will permit the erection of class C buildings for apartment and lodging houses and hotels to a height of six stories. The brick men pointed out to the committee the fact that the city ordinance renders the cost of building excessive and prevents a proper return on the owners' investment. Building Superintendent Backus was not in favor of the proposed changes and the Safety Committee took the subject under advisement.

Kentucky

The R. B. Tyler Co., Louisville, Ky., while showing fair activity in its brick department, has been very busy in the stone department, and general building supplies. It also closed a contract recently with the city for a large quantity of road oil.

With the Louisville (Ky.) Builders Supply Co., things are about the same as with the rest of the trade, altho the company got started early this year, and has been making regular deliveries on a few fair contracts. Right now things are a bit dull due to the weather, but the general outlook is pronounced satisfactory.

The Southern Brick & Tile Co., Louisville, Ky., is not very busy in any department at the present time, altho the plant is running on brick. The branch tile plant will probably be placed in operation later on in the year if the main plant is busy. The main plant will start making tile during the mid summer season.

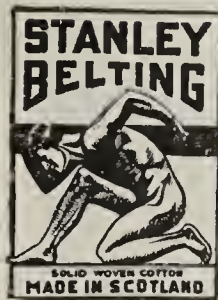
Stanley Belting

For Regular, Economical Service

Stanley Solid Woven Cotton Belting is preferred in many brick plants because it delivers the maximum service per unit horsepower. It performs this unusual service regularly, continuously.

Because of its special construction, it doesn't buckle and tear the inner and stretch the outer surface of the belt to the breaking point. It is absolutely waterproof. No stretching on rainy days. No tightening in dry weather. It outlasts rubber and costs less than leather. Unaffected by heat, oil, acid, dust and grit. No plies, stitches or laps to come apart.

Specify a trial length of Stanley Belting today.



Stanley Belting Corporation

32-40 South Clinton St.

CHICAGO, ILL.

Sizes from 1/2 to 42 in.

DOES YOUR PROFIT GO UP IN SMOKE?

Canton Rocking and Dumping Grates in your plant mean a large saving in fuel, or a greatly increased production with the same amount of fuel.

By improving combustion, they make a coal saving of at least 10% in comparison with stationary grates. Peak loads can be maintained easily.

If you are interested in cutting down fuel cost and improving combustion, write for Bulletin B, Form 14.

Canton Grate Co.,
1706 Woodland Ave., N. W.
CANTON OHIO

**CANTON GRATES SAVE FUEL
FOR BOILERS FOR KILNS**

Perforated Steel Screens Of Every Description

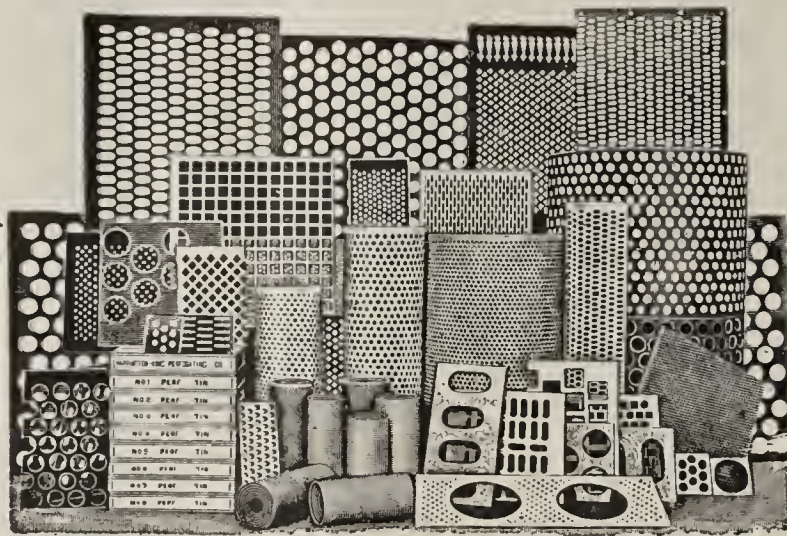
**For Screening Clay, Shale, Sand,
Gravel, Stone and Cement**

**No Other Screens Will Give You Equal Capacity,
Durability and Satisfaction**

The Harrington & King Perforating Co.

635 N. Union Ave., Chicago, Ill.

NEW YORK OFFICE: 114 Liberty St.



You won't have to worry about competition
if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick
will be

Scum-Proof

You can get a higher price and influence
architects to specify your product because
Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's de-
pendable.

*We have a complete line
of high grade chemicals
for the clay industry*

**The Roessler & Hasslacher
Chemical Company**

100 William Street

New York

Chicago, Ill. Cleveland, O. St. Louis, Mo.
Kansas City, Mo. San Francisco, Cal. Philadelphia, Pa.
Boston, Mass. New Orleans, La.
Cincinnati, O.

The Coral Ridge Clay Products Co., Louisville, Ky., is running a little better than half time, working principally on brick orders. Business has not been quite as good as Manager James T. Howington had expected it, but under existing weather conditions not much can be expected. Mr. Howington left recently for a short business trip to several Southern points, going as far as South Carolina.

The City of Louisville, Ky., has just recently passed an annexation ordinance, and is going ahead with plans to take a large section into the city. It has guaranteed the residents of certain sections, certain city improvements, which will include a considerable amount of sewerage, requiring large quantities of sewer pipe.

Just recently the National Bank of Kentucky, Louisville, sold the German Bank building, which it had planned to enlarge and remodel as permanent headquarters, to the Federal Reserve Bank, and the former owners at once announced that a new office building and bank building, or else a direct banking building would be erected. A committee of directors was named to select a site and make preliminary arrangements, which will be reported back to the board at an early date.

A. P. McDonald, sales manager for the P. Bannon Pipe Co., Louisville, Ky., said: "While things are not as active as we would like them to be, we feel that we have no room for complaint. Nice inquiries are coming in, and enough business to keep both plants going. I picked up a nice hollow tile contract over at Lexington last week, and there are some other good prospects there and also at Frankfort and Shelbyville. I believe business will come a little late this year, and some of the prospects probably won't get started until next year, but there is a quantity of good business in sight for all of us."

W. L. Cramers, of the R. B. Tyler Co., Louisville, Ky., jobbers, reported business as showing steady improvement, with many people figuring, and the architects generally busy. He said: "While business is not up to the prewar standard it is improving right along, and showing a marked improvement over the war time period. The outlook is encouraging to say the least. The brick market is getting good. During the past week we sold close to 80,000 fine face brick at prices ranging from \$30 to \$45 per thousand for residence construction, and have a lot of big contracts in sight in connection with some big local propositions. Our general lines of building supplies have been active."

Business with the fire brick manufacturers of Louisville, Ky., has been rather dull for the past few weeks as the steel and iron interests are running spasmodically, have fair supplies of material on hand, and are not buying. The fire brick department of the P. Bannon Pipe Co. represents the duller department that the company has at this time. The Louisville Fire Brick Works is about cleaned up on old contracts, and is only making up a few lots to fill in short stocks. Prospects are uncertain, and according to Sales Manager J. H. Bell, of the latter company, the plants may close down shortly as labor and coal costs are too high to make up much stock without a demand in sight to take care of it. However, some of the refining propositions look promising, and may offset the dullness in the steel and iron industry to some extent.

Oscar Hillenbrand, of the Progress Press Brick Co., Louisville, Ky., discussing the present situation said: "Business is picking up, and we believe things are going to be very good, and that the year will prove a hummer. We have received two contracts within the past few days for a

quarter of a million brick each, and are absolutely sure of one contract for a half million brick, where the work will start within three weeks. We are also making deliveries of a hundred thousand on small orders. We closed down on May 26 due to lack of kiln room. We have 1,000,000 burned brick on hand, and 300,000 that will be out of the fire within ten days, and will go right ahead. If conditions turn out as well this year as we expect them to, we figure on putting out our record run of face and common brick during the remainder of the year."

Frank Fehr, a wealthy brewer of Louisville, Ky., has announced that he will erect a large apartment house at Third and Avery, where he now owns the Magnolia Gardens. Alfred Struck, a local contractor, is head of a syndicate of builders and supply men who will erect a large suburban apartment house. Plans are also being drawn for a large apartment house, to contain a bank, and community stores in Audubon Park, by the Audubon Park Realty Co. The Louisville Lead & Color Co. is erecting a large varnish plant, and the Jones Dabney Paint & Varnish Co. have started work on a new building. The White Star Refining Co., of Detroit, has secured an option on land at Louisville, upon which it plans to erect a large refinery handling Kentucky oil. The Standard Oil Co., of Kentucky, has announced plans for a \$2,000,000 addition to its present plant. There are any number of other large contracts brewing, and a good deal of residence work under way.

Mexico

As a result of the revival of building activities in Mexico, the Monterey Brick Manufacturing Co. has resumed operations on a large scale. The products of this plant are shipped to various parts of Mexico, and in pre-revolutionary times it did a large business in the sale of brick in Cuba and the United States. It furnished more than 4,000,000 brick for the construction of the sewer system at San Antonio a good many years ago. The industry was promoted by Col. J. A. Robertson, pioneer American investor in Mexico enterprises, who came to Monterey from St. Louis, Mo., about thirty-five years ago. He is given the credit with having had more to do with bringing American capital to Mexico than any other man. He promoted and constructed the Monterey & Mexican Gulf Railroad, now a part of the National Railways of Mexico, running from Monterey to Tampico; he induced the American Smelting & Refining Co., the Guggenheims and other large smelting and mining interests to make enormous investments in Mexico; he secured the establishment here of a large iron and steel plant, nail works, foundry, brewery and various other industrial plants. He built the first pressed brick plant to be constructed in Mexico. It was due to him that an era of brick and concrete street paving was inaugurated in the larger cities of this country. He also brought about the use of brick in the erection of business buildings and residences of the more modern types in Monterey, City of Mexico and the other principal cities of Mexico. Colonel Robertson also aroused an interest in the possibilities of growing oranges and other citrus fruits in Mexico by successfully putting out a large orchard of these fruits near Montemorelos, more than a quarter of a century ago. He was forced to leave Mexico during the revolutionary period and has resided in San Antonio during the past few years.

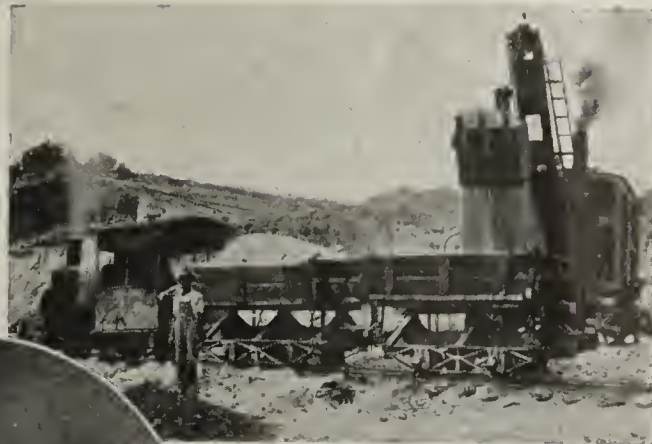
Massachusetts

Maurice C. Viele, of North Adams, Mass., has acquired all the stock of the North Adams Brick Co., whose plant

The "A" ERIE weighs 13 tons. Rated capacity, 30 to 40 cu. yds. per hour.

The "B" ERIE weighs 20 tons. Rated capacity, 50 to 60 cu. yds. per hour.

These rated capacities are often exceeded.



"We are highly pleased with our investment"

"We congratulate you on having put on the market such a labor saver and efficient worker as the ERIE Shovel. We are highly pleased with the machine installed in our pit—very well satisfied with our investment." Letter signed by J. S. Bone, President Oconee Brick and Tile Company, Milledgeville, Ga.

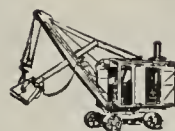
Just one more sample of the letters that we are receiving from Clay Products manufacturers all over the country.

They prefer the ERIE Shovel because of its large capacity—they appreciate the ERIE most when there is a rush demand for raw material. And the ERIE is reliable.

Let us send you full information. Write for a copy of our Bulletin B.

BALL ENGINE CO., Erie, Pa.

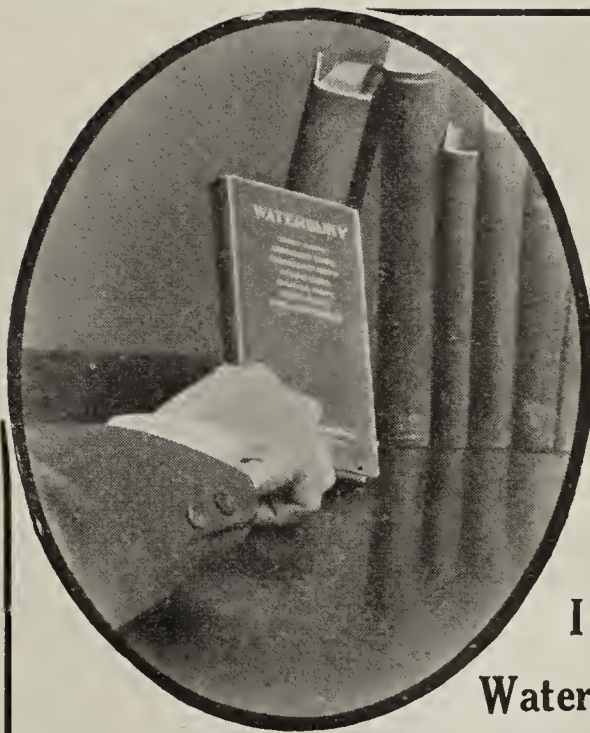
Builders of ERIE Shovels and Cranes; BALL Engines



Serves either as steam shovel or as locomotive crane, with clamshell bucket.

ERIE Revolving Shovels

BALL Engine Co. Erie, Pa.



"When it's a question of rope — I reach for the Waterbury catalog"

It is much more than a catalog, as you usually think of that word. It's really a Rope Handbook. There isn't anything you need to know about rope that isn't in it, in concise, "quick-findable" form. It takes the place of a half-dozen books—and more than that, it has some information in it you can't find anywhere else.

Of course, it treats of Waterbury Rope, because rope facts are facts for every good rope. And Waterbury rope has the quality in it—quality of material, quality of workmanship.

You'd expect to have to buy this Rope Manual—and you'd find it well worth a price, at that—but it doesn't cost you anything but the postage stamp on your letter. A copy is free for the asking.

Write for yours today—and when it comes, put it where it's easy to reach. You, too, will find it useful. Just address the

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Dallas, Texas—A. T. Powell & Co.
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Save Your Belts and Make Them Work

New belts never cost so much nor were so worth preserving, nor was there ever so much possible demand ahead for brick.

If you ever needed Cling-Surface you need it now. It is not a sticky belt dressing, but a real preservative for leather belts which will also do fine work on rubber belts. It keeps the leather and canvas belts pliable and waterproof, prevents cracking; it stops the slipping of all kinds so that they can run slack, pull full loads and last as long as you do.

Twenty-five or fifty pounds sent on approval. Pay if O. K. and not otherwise. Write us now.
Very truly yours,

CLING-SURFACE COMPANY

1029 NIAGARA ST., BUFFALO, N. Y.

Canadian orders f. o. b. Toronto or Montreal duty paid

SAUERMAN DRAG LINE CABLEWAY EXCAVATOR

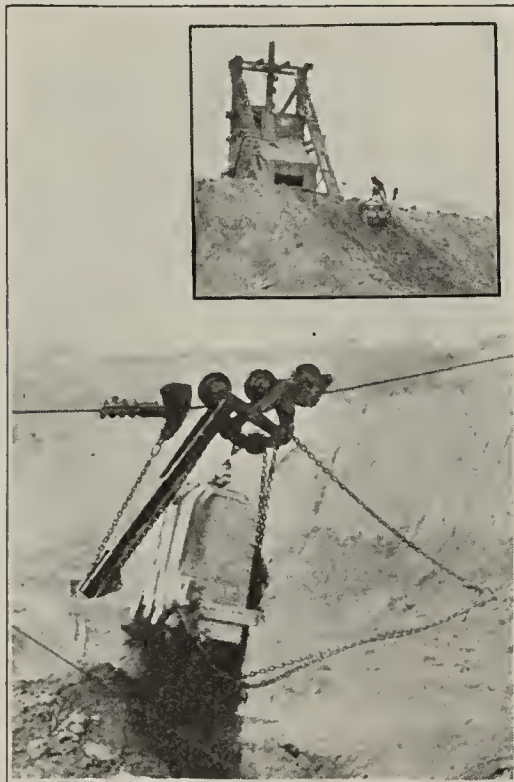
is a one-man machine which connects the clay pit with the plant and digs, conveys and dumps the clay in one continuous operation. It does away with the shoveling gang and the cars, locomotive, track, etc., that are required when other kinds of excavating machines are used.

Here's Example of Economy of Sauerman Outfit in Clay Plant:

The problem confronting one large Ohio brick manufacturer was to find the most economical means of getting the clay from a large hill and delivering to the plant situated in the valley. The method first tried out involved the use of a steam shovel with cars and horses to haul the clay to the plant and required the employment of six to eight men.

The Sauerman outfit which has taken the place of the shovel and cars, digs the clay from the hill and conveys it to a hopper from which a car runs up and down a short incline to the plant. Two men constitute the entire operating force.

The small picture shows the bucket digging a load near the top of the hill. The bucket loads in a few seconds, then the drum carrying the load cable is released by the operator of the double-drum friction hoist on the hill-top and the loaded bucket returns down the track cable by gravity to the hopper 500 ft. away in the valley. The large view shows the quick, sure, automatic dumping action of the bucket.



This low-end dump type of installation has proved to be a perfect solution of this clay-digging problem. Our other type of outfit, dumping at high end of cableway, is equally successful where the clay has to be delivered to a point higher than the place of digging. What is your problem?

Catalog free on request.

SAUERMAN BROS.

316 S. Dearborn St., Chicago

Mfrs. Cableway Excavators, Power Scrapers and Cableway Accessories

is at Braytonville. Mr. Viele has been connected with the manufacture of brick for a number of years and for a long time was manager of the present company when it was owned by the Thayer Estate. Later, when the concern was operated as a trust, he also managed its affairs. The plant has now a capacity of 42,000 brick a day, but it is Mr. Viele's intention to increase this output materially, as well as making improvements to the plant.

Brick manufacturers and dealers in Massachusetts are devoting considerable attention to making home builders and investors realize the advantages of the use of brick instead of wood in the construction of even moderate sized dwellings and they believe they are meeting with some success. The fact that brick is practically permanent and requires little or no attention is pointed to as a big advantage and one which offsets the slight extra cost. Brick prices in Boston remain firm at \$18, delivered on the job, and dealers report an increasing demand altho they would be able and willing to handle more orders.

Missouri

Much business is anticipated by manufacturers from the completion of the docks at the foot of North Market Street by the city of St. Louis. The passage of an ordinance for the appropriation of \$300,000 to complete the work is virtually assured. This also will involve the erection of two new warehouses, one 400 by 200 feet and the other 120 by 200 feet. St. Louis manufacturers of building materials have used the Mississippi River barge line to a great extent, and will benefit by this move which, it is said, will be followed by a reduction in freight rates.

The A. H. Haeseler Building & Construction Co., with offices in the Wainwright Building, St. Louis, Mo., has been awarded the first big contract for work on the \$3,000,000 plant of the General Motors Co., of Detroit. The contract is for building work aggregating more than \$400,000. This is the only award which has been made, altho many contractors and manufacturers have submitted bids for various parts of the work. It is expected that a number of other contracts, many large ones among them, will be announced shortly.

Practically every brick manufacturing concern of prominence in St. Louis has submitted bids for the contract work on the 3,000,000 plant of the General Motors Co., of Detroit, to be erected this summer in the new Union Avenue industrial belt, and all are anxiously awaiting the awards. The main building of the plant will be completed before fall and the other buildings will be completed one by one until the tract, which contains more than 100 acres, will have been filled. It will be used for the manufacture of Buick automobiles. Several temporary buildings, forge rooms, power houses and the like already have been completed and work has begun on the excavation. The first building will cost about \$1,000,000. The main portion of the site was purchased from the Hydraulic-Press Brick Co.

L. G. Blackmer, president of the Blackmer & Post Pipe Co., St. Louis, Mo., diagnosing present market conditions, declared that there is no chance for reductions in quotations for many months. Everything is going into the cost of manufacture, he said, and unless something unforeseen occurs, there will be no basic change in cost of material. The cost of labor cannot be cut, he asserted, for fair-minded business men realize that the living cost of the workman calls for higher rather than lower wages. He said that he looked for good business condi-

tions shortly, adding that a large amount of public work is developing. Aside from business conditions, Mr. Blackmer concluded, manufacturers, especially at this time, should look further than the profit sheet to help their communities and employes take hold again.

F. C. Aschemeier, sales manager of the Hydraulic-Press Brick Co., St. Louis, Mo., is making an extensive business trip thru the West and Southwest. S. H. Wheatly, assistant sales manager of the company, said that business in general is showing a steady gain; that much work in and around St. Louis is being figured at present and that builders are beginning to realize that material men have reached the limit on reductions. He pointed out that local brick manufacturers had taken the initial move to stimulate business several weeks ago by making a substantial reduction in the price of building brick, even before they knew what labor would cost or what the cost of production would be. Mr. Wheatly said that while, to his knowledge, no reduction in the labor scales of any of the St. Louis manufacturers had occurred, all concerns stand ready to reduce prices as soon as the opportunity presents itself. G. C. Mars, head of the department of service, of the Hydraulic-Press Brick Co., declared that he expected a steady gain in business among St. Louis manufacturers in general. This has been indicated in the past few weeks, he said, as local firms have reported graduating increases regularly. He pointed out that it is the opinion of no small number of national economists that St. Louis, which was not pulled so far from its peace-time basis by war work, will recover more easily, from an industrial standpoint, than other large cities.

New Jersey

The Hanover Brick Co., Whippany, N. J., is maintaining operations at its plant for the production of common brick. This plant is equipped with three large kilns, employing the Scott system. The production is particularly high-grade, and of much finer quality than the average common brick as found in the open market. The company operates its own clay properties closely adjacent to the plant, mining with steam shovel operation. The yard has a fine supply of brick on hand at the present time, and is fully equipped to handle all orders. C. W. Ennis, Morristown, is secretary and treasurer of the company, and actively engaged in the management.

The yards and siding of the New Jersey China Co., Trenton, N. J., have been leased by the Philips-Harper Co. The property will be utilized for the storage of burned clay specialties, and of which this company handles a most extensive line, ranging from face and common brick to building block and different fire-proofing specialties. This organization has received a contract to furnish material for the construction of three new school houses, one to be located at Atlantic City and the other two at New Brunswick. Also for a new building to be constructed by the Matthews Construction Co. at Princeton, N. J., and for a number of specialties for building use for the Cook Linoleum Co., Trenton.

Considering the prices of common brick and standard building materials, as now prevailing at Trenton, N. J., it is interesting to note that prominent interests in the industry in this city generally hold to the opinion that there will be no change in prices for some time to come. In discussing this matter, Thomas A. Cahill, of the Independent Brick Co. believes that there will not be any

SELF LOADING ELECTRIC INDUSTRIAL TRUCKS


Electric Brick Barrow

Can you guarantee maximum capacity for your plant next season?
Are you providing modern equipment to attract desirable labor?

Electric Self-Loading trucks are proving an unqualified success lightening labor and reducing trucking expense handling brick, clay or fuel.
One man on an Elwell-Parker special Electric Brick Barrow performs with little effort six to ten times the work he did as a hand wheeler. He delivers a 4,000 pound load in half the time.

The Elwell-Parker Electric Co.
"Pioneer Builder of Electric
Industrial Trucks"
Cleveland, Ohio





Bituminous COAL

Particularly Adapted To Burning Clay Ware

...

INDIANA BLOCK

Three Operations in Clay County, Indiana, on
Monon R. R. Capacity, 3,000 Tons per day.

...

INDIANA Number 4

Three Operations in Green County, Indiana, on
Monon R. R. Capacity, 3,000 Tons per day.

...

Both burn with long flame, are very low in sulphur, and leave a flaky ash.

Tell us your requirements

POWER COAL COMPANY

FISHER BUILDING :: :: CHICAGO
Traction Building, Indianapolis, Ind.
Terre Haute, Ind.

They're genuine if they have the Jenkins "Diamond Mark"



You may not get a genuine Jenkins Valve unless you look for and demand the Jenkins "Diamond Mark."

The Jenkins Diamond, the distinguishing mark of unvarying service, is on the body of all Jenkins Valves—Brass, Iron and Steel. These include types and sizes to meet all requirements.

Globe, Angle, Cross, Check, Combination Stop and Check, Blow-off, Whistle and Gate Valves in stationary or traveling spindle patterns.

The valve user of 50 years ago demanded "Jenkins" for dependability as users do today.

JENKINS BROS.

New York

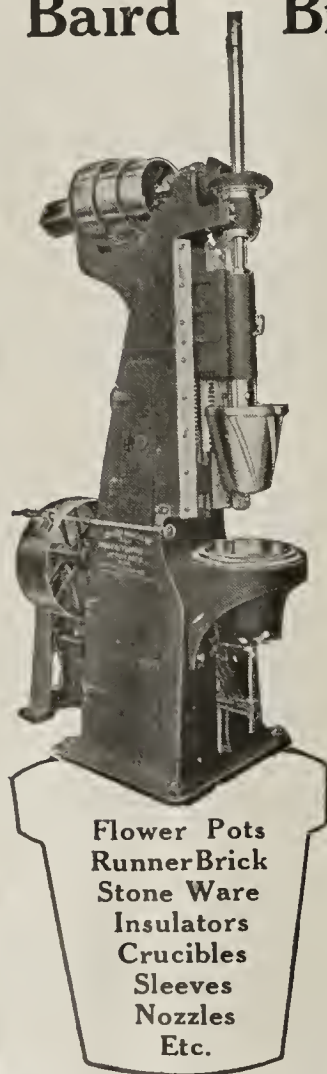
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Jenkins Valves

Baird Bi-Product Machine



Flower Pots
Runner Brick
Stone Ware
Insulators
Crucibles
Sleeves
Nozzles
Etc.

One of these machines installed near the clay bin or pug mill can easily be turned into a money maker.

Any man in the machinery or grinding room can operate it. He can do this while waiting for repairs to be made in another part of the plant, thereby turning lost time into profit.

Machine is adaptable to Flower Pots, Stone Ware, Crucibles, etc. Users assure us that it more than meets their requirements for quality and quantity production.

Send us a sample of your clay at once, and learn the possibilities of these machines. You will be surprised with the results. Write today to

Baird Machine & Mfg. Co.

265-69 Jefferson Ave., E.,
Detroit, Mich.

noticeable decrease in the price of common brick for at least three months, and that any reduction thereafter will be based, to a large degree, on prevailing labor wage scales. J. C. Richardson, of the J. B. Richardson Sons Co., one of the principal local dealers in building materials, is of the opinion that a drop in the price of standard building materials in regular demand is extremely uncertain.

At the sale of the property of the General Ceramics Co., held by Francis P. Garvan, Alien Property Custodian, at Jersey City, N. J., early in May, the stock and bonds offered were purchased by Stephen Peabody, 20 Nassau St., New York, on his bid of \$390,000. The company operates a number of plants, two being located at Keasbey in the Raritan River section, specializing in the production of chemical stoneware. The company was incorporated in February, 1912, as the German-American Stoneware Works, and this name was changed to the General Ceramics Co. in March, 1917. The stock acquired consists of 1,225 shares of preferred and 5,112 shares of common, all of par value of \$100 each and 52 first mortgage bonds, bearing 5 per cent., payable October 1, 1935. Louis Albersch, New York, tendered a bid of \$315,000 for the stock.

The long-predicted real turn in construction work seems to have arrived at Newark, N. J., with decided vim. The middle week in May, dating the 17th, brought a volume of plans filed to an aggregate estimated cost of \$664,864, an amount which exceeds any weekly total since 1914. Heretofore the general average has been in the neighborhood of from \$200,000 to \$250,000, covering weekly totals. Among the more notable projects may be mentioned a new factory for Otto Heineman Phonograph Supply Co., New York, to be located on Thomas Street; the structure with power plant is estimated to cost close to \$400,000. The American Food Co. has arranged for the erection of a new four-story building on Barger Avenue to cost \$100,000, while the American Metal Bed Co., 40 Clifton Street, will build an addition to its works to cost \$50,000. A number of apartment houses and numerous dwellings are now under way.

The Manufacturers' Council of New Jersey is holding regular monthly meetings at Newark, N. J., at which considerable good is being accomplished. These meetings take the form of a dinner for the Executive Committee, and a discussion of primary topics following. An important subject for some time past has been that of labor and labor conditions, and the organization has done much to improve the situation in the different industries represented in its membership. The clay, pottery, tile and other ceramic interests in New Jersey are well identified with the Council, and George E. Hoffman, secretary of the Monument Pottery Co., Trenton, N. J., is secretary. In passing, it is interesting to note that Warren C. King, president of the organization, and chairman of the New Jersey Co-Operative Industrial Commission, has announced his candidacy for the Republican nomination for governor of the state; Mr. King has never held public office, nor been active previously in politics, and is of the type of man that would be sure to give the community a good business administration.

The demand for common brick and other burned clay products is quickening in different sections of the state of New Jersey. The call for material of this nature is on the increase, and prices hold strong at existing levels. With the yards at Trenton, Hackensack, and in the Raritan River section now producing, there is no question

but what stocks will be available for all current demands. Hackensack brick is now in the local market at Newark, Passaic, Paterson, and surrounding sections, while the Raritan River product is making its way to New Brunswick and vicinity, as well as at long distance points. The current quotations continue at \$19.50 for good, hard common at Newark, delivered on the job; \$17 and \$18 per thousand at Passaic, Nutley, and the Paterson district, while at Trenton the production is quoted at \$15. In the southern part of the state in the neighborhood of Atlantic City and other shore resorts a price of \$22 per thousand is evidenced. Prices on good face brick have a tendency to hover between \$40 and \$50, the first noted quotation being that at Newark, N. J., while in the Paterson district the figures range from \$45 to \$50. Prices on hollow tile building materials hold firm, averaging from about \$130 per thousand to \$380 per thousand, according to size; partition tile varies from \$100 to \$230 per thousand, the latter being from 8x12x12 inches. The call for fire brick is fair, with first grade material obtainable at from \$68 to \$75 and \$76.

Building construction work is showing no letup in the leading cities of New Jersey, and the one big drawback to the situation which has developed during the past few weeks is the labor difficulties among the different branches in the building trades. Strikes at Newark, Passaic, Princeton and other cities have brought a standstill to current operations, and work on a number of important structures well under way has been stopped. The main difficulty is with the laborers who demand an increase of $6\frac{1}{4}$ cents an hour in rate of pay. Other troubles with the bricklayers, carpenters, ironworkers, engineers, etc., have now been practically smoothed out and it is expected that a very short time will see a general righting of affairs and resumption of general work. Architects and engineers are decidedly busy with plans for forthcoming operations, and many of these are interesting projects for the brick man and building material dealer. Plans are rapidly being completed by Architects Esenwein & Johnson, Ellicott Square, Buffalo, N. Y., associated with J. Osborne Hunt and W. A. Klemm, Trenton, for the new \$1,000,000 hotel to be located at West State and Willow Streets in the last noted city; the Stacey Trent Hotel Co., is the owner of the structure, which will be of brick and steel, 12 stories high. At Camden, Custer & Gill, architects, Third and Market Streets, are drawing plans for a new brick theatre building to be erected on Broadway by N. B. T. Rooney, Market Street; the building will cost about \$75,000. A new brick and steel fire house to cost \$60,000 will be erected by the Board of Directors, Atlantic City.

New York

The United Fire Proofing Co., has removed its offices from 404 Fourth Avenue, New York, to 12 West Fortieth Street, to provide for increased facilities.

John B. Rose, president of the Rose Brick Co., 103 Park Avenue, New York with works at Roseton, N. Y., has filed schedules in bankruptcy showing liabilities of \$741,262 and assets of \$347,792.

The R. L. Winslow Co., New York, has been incorporated with a capital of \$10,000 to manufacture and deal in brick, tile and ceramic wares. The incorporators are R. L. Winslow, J. C. Martin and A. B. Kerr, 49 Wall Street.

Within a week or two it is expected that operations

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The Manufacturers of Clay Products at Reciprocal Insurance Bureau, offers you an opportunity to come in and insure against fire with preferred risks that are of your own class and engaged in the same line of business. This Bureau saves you the expense of paying for (1) enormous overhead, (2) agents' commissions, (3) companies' profits. You are assured of greater safety, co-operative assistance of a practical kind, and better service.

A large Brick and Tile plant owner writes:

"We can truthfully say we have never had more prompt and satisfactory adjustment of claim than in this case."

Write us for rates and our plan to render better service and greater safety.

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We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

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STEUBENVILLE, OHIO**

"We have been using at our two factories for the past year, Barium Carbonate made by the Rollin Chemical Company. This material is used to prevent scum and has proved entirely satisfactory."

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IMPROVE YOUR WARE

It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

Write us now.

The Rollin Chemical Co.
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BRICK MUST HOLD UP ITS REPUTATION

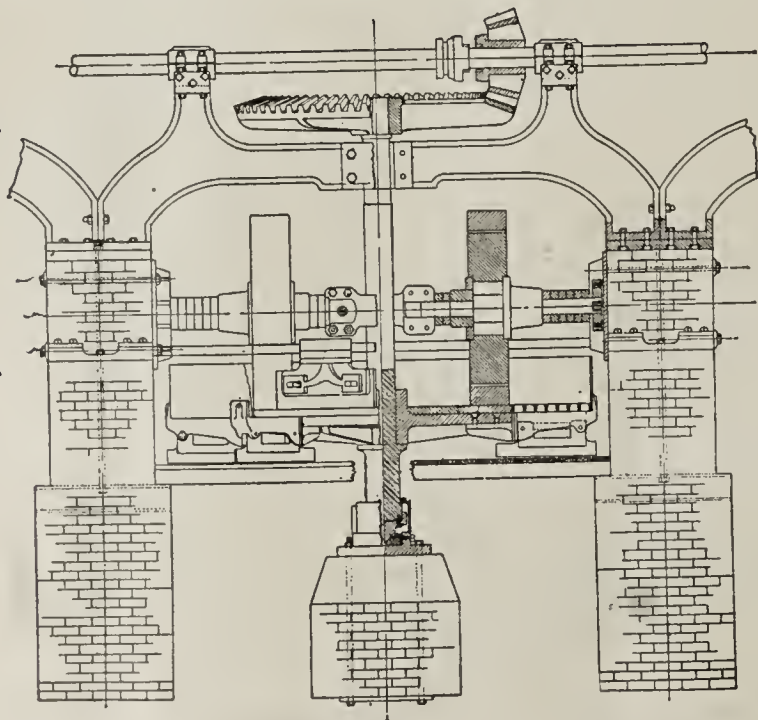
The "MEANS" 9 Ft. Dry Pan

is being chosen for the reduction of clay and shale by successful claymen because careful comparison with other makes, and records of their performance, show the "Means" to be the best.

Special features are the improved step and toe, and adjustable bearings.

In addition to dry pans we manufacture all equipment required in sewer pipe and tile plants, and our special goose-neck attachment for the sewer-pipe press affords a means of making brick directly from the press. Write us.

The Toronto Foundry & Machine Co., Inc.
Toronto, Ohio



will be fairly well under way among the brick plants in the Hudson River district. The past fortnight or more of poor weather has gone to retard the inauguration of activities and coupled with the scarcity of labor, there has been a general hold back in the situation. A few of the plants have commenced work and it is anticipated that actual molding will begin close to the turn of June. While producers do not view the aspect with favor in all respects, the opening up of construction work at Greater New York and vicinity, as well as in other parts of the state is bringing about a far more optimistic attitude and the larger interests express entire confidence in the trend of affairs.

The movement in face brick in the New York market is commencing to assume pleasing proportions and the larger dealers report business as coming along in a decidedly pleasing way. A number of important structures are in contemplation, calling for large quantities of high grade material and coupled with the placing of actual orders of good size there is nothing for the face brick man to do but to "get busy" and plan for the future. Prices hold firm at from \$37 per thousand to \$45 and above, according to variety. Rough greys are selling for \$43 and smooth greys at \$46, delivered on the job. Iron-spots of light, dark and medium colors are bringing about \$39.50. Salt glazed varieties are quoted at \$50 while enamel brick is listed at \$85 for American size and \$115 for English. There are no Raindrops in the market at the present time.

Increasing activity actuates the New York brick market. The demand for material continues with particularly strong call from Brooklyn, which is taking the lead of the other boroughs in construction work. Wholesalers look with favor on the situation and the current volume of business is expected to increase as the season advances. The price of good hard common brick continues firm at \$15 per thousand in barge lots, alongside dock, making a price from \$17.85 to \$18 delivered on the job. There is no evidence of a recession from this level and in all likelihood this quotation will prevail for some months to come. An average of about one-half of the sales find their way to the Brooklyn district and the market in this section is developing with great rapidity for building materials of all kinds.

The Hay Walker Brick Co., reports business as showing substantial improvement with a call for face brick from many neighboring sections. It is said that the trend of trade is decidedly satisfactory and that many projects are in process of rapid development to absorb a large quantity of high grade face brick as the season advances. Stocks are coming along well and such brick as generally called for is available. Among the notable contracts recently secured by this well known organization are the Quadrangle Memorial Building, Yale University, New Haven, Conn., requiring about 500,000 face brick, James Gamble Rogers, New York, architect; building for the D. Auerbach & Sons Co., manufacturer of candy, Forty-sixth Street and Eleventh Avenue, New York, about 200,000 face brick; and building for the Garrison Country Club, Garrison, N. Y., Carrere & Hastings, architects, calling for 50,000 face brick, these to be of Harvard antique pattern.

There is no lax in activity in construction work at New York and vicinity. New operations and plans for new operations continue apace; architects and engineers are busy, and the reflection of this work is shown in

the calls being made on brick and burned clay interests, as well as building material men. The individual projects as developed, are aggregating from 100 to 200 and over weekly in the metropolitan district, with estimated cost involving many millions of dollars. A number of notable structures are now under way, and with the turn of June, the volume will be considerably increased. Work has been commenced on the construction of a new eleven-story apartment house at Fifth Avenue and Sixty-sixth Street, to cost about \$1,000,000; this multi-family dwelling is being erected by the Schley Estate. A new twenty-story office building, to be known as the National Association Building, will be constructed on Forty-third Street running thru to Forty-fourth Street, and to cost about \$2,500,000. This building will be faced with Harvard brick with limestone trim. James T. Lee is the owner. A great impetus to house construction has been caused in the Brooklyn district by the wide demand for homes, and numerous apartments and dwellings are now under way. Plans have been prepared for a four-story brick and limestone apartment building to be located on Avenue H, near Twenty-first Street; with cost estimated at \$560,000. The John B. Bradley Co. will build eight two-family dwellings on Ninetieth Street, near the Ridge Boulevard, each two-story, to cost about \$60,000.

Ohio

The Claycraft Brick Co., of Columbus, Ohio, is now operating both of its plants, the one at Groveport and the other located at Shawnee, Ohio. According to Salesmanager Matthews the outlook is quite promising.

The Deegan Brick & Tile Co., of Coal Grove, Ohio, has been chartered with a capital of \$50,000 to manufacture brick and tile in addition to other kinds of clay products. The incorporators are J. G. Deegan, J. F. Deegan, A. L. Vass, D. M. Williams and O. J. Deegan.

Bids were opened May 26 by the Ohio Highway Commission for the paving of a number of highways in the state and bidding was quite spirited. The biggest job was the three sections of the Wapakoneta-Mt. Marys road in Auglaize County over eight miles in length, on which bids were taken in three sections. At the same time bids were taken on plain concrete and bituminous concrete construction. The contracts have not yet been awarded.

The Ohio legislature is still tinkering with the bill to relieve cities of their financial stress in order that needed improvements, mostly street improvements, can be carried forward. The joint finance committee is now trying to pass the temporary relief measure over the head of the governor's veto, but it is doubtful if this can be done and no other feasible plan has been brought forward. Until relief is given many of the municipalities in the state can not go ahead on their street improvement program.

Quite a few building projects in Columbus, Ohio are now going forward. In the list of construction work is the new home for the Franklin Loan & Savings Co., at Main and High Streets, a large addition for the Columbus Pharrmical Co., on East Oak Street, a factory for the Henderson Rubber & Tire Co., on West Goodale Street, which moves to Columbus from Bucyrus; an addition to the plant of the Bradford Shoe Co., on Neilston Street; a garage and sales room for the Carroll-Thompson Co., on East Long Street, and an addition to the C. & E. Shoe factory. Other jobs are being planned and considerable work is in store for the brick people of the Buckeye capital.



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Over 154,000 Pulsometers have been sold and they're doing pumping jobs of all kinds everywhere.

No oil—no attention—it just takes steam to make a Pulsometer PUMP. Learn all about it in a new Catalog—it's yours for the asking.

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THWING

HIGH RESISTANCE MULTIPLE RECORD

PYROMETERS

in

Brick Plants



Typical Location and Housing for Thwing Thermocouple on a Brick Kiln

A Typical Instance of What They Are Doing

The Hocking Valley Brick Co., Logan, Ohio, has been using Thwing Pyrometers for the last two years in 30 kilns in which shale paving brick is being burned at from 2,050 to 2,100° F. The permissible range is from 40 to 50° when on high fire, but the temperature then seldom varies more than 25 to 30°.

The use of the Thwing System here has resulted in a saving of both time and fuel, and previous trouble from overheated kilns has been reduced to a minimum.

During the entire two years only one thermo-couple has been renewed, this renewal being necessary only because of damage in a storm. The whole Thwing Pyrometer System has proven thoroughly reliable, has stimulated the firemen to more careful efforts, and since the extreme shortage of labor has been of the greatest value in getting good work from inexperienced men.

Equally satisfactory performances which we could cite by the hundred would not be half so convincing as a trial in your own plant. Let us submit you interesting data and costs.

THWING INSTRUMENT CO.
3336 Lancaster Ave. Philadelphia

With the settlement of the strike of the various building trades in Columbus, Ohio, there is more activity exhibited in the brick business generally. This applies both to common and face brick as well as other clay products. Practically all of the men have returned to work after being out 10 days. The strike was called in sympathy with the strike of the mill workers who went out previously. During the time of the strike a good many building projects were held up but on the other hand, many went forward by the employment of non-union workers. The strikers lost ground as the result of the lay-off as all of the brick people of Columbus in unison with all building supply dealers agreed to sell materials to any one no matter what class of labor they employed. Formerly quite a few sold only to contractors employing union men.

Oregon

The Denny-Renton Clay & Coal Co., Portland, Ore., reports business poor at the present time. This company is planning to make segment sewer blocks in the near future.

Pennsylvania

The Norris City Brick Co. has been incorporated at Bridgeport, Pa., with a capital of \$15,000.

Application has been made in the Circuit Court at Scranton, Pa., by creditors of the Wagner Fire Brick Co., which operates a plant at Archbald, Pa., to have the company adjudged bankrupt. It is alleged that the concern has allowed two of its creditors to secure judgments against it.

Construction work is developing at a good pace at Pittsburgh, Pa., and a number of important projects, as well as a volume of miscellaneous, are now under way. During the month of April, more permits for building projects were granted in the city than in any previous month in local history—this shows conclusively that things are coming along in the right way. In the month noted, 537 building permits were issued, the nearest total in any previous month being in April, 1910, with 528 permits. The estimated valuation of the work aggregated \$1,014,383 divided into 354 new buildings to cost \$480,931; 57 building additions to cost \$352,279; and 126 repair and alteration jobs to cost \$181,173.

The demand for common brick in the Philadelphia district is increasing and other burned clay building products are following as close seconds. Prices hold strong at present levels and there is no indication of any noticeable change in quotations in sight. Good hard common brick is now selling for \$17 per thousand delivered on the job, while stretcher brick is quoted at \$20; salmon brick is bringing \$14 per thousand. The prices on hollow building tile continue to hold, being \$60 per thousand for 4x5x12 inches, with proportionate increase for larger sizes. Fire brick is selling for about \$70, with demand slightly slackened. Face brick is beginning to move and the outlook in this direction both at Philadelphia and other parts of the state is very encouraging.

The trend of building construction work at Philadelphia Pa., and vicinity is decidedly encouraging. The last fortnight has developed increased activity in this branch of industry and a number of interesting projects will mature at an early date. Residence and apartment house work is coming along in nice fashion and there has been noticeable improvement in this direction. As regards local housing work as now in prospect, Daniel

Crawford, Jr., president of the Philadelphia Operative Builders' Association says that it is his opinion that not more than from 3,000 to 4,000 houses will be erected in the city this year, with the lower figure a closer approximate. The main trouble, he points out, is that the general public has not yet commenced to realize that there is a new standard of value for all commodities in life, including dwellings. Houses today cost from 50 to 60 per cent. more than they did three or four years ago, and consequently must be sold at proportionately higher prices. There are people who seem to believe that the new cost of houses is evidence of profiteering on the part of the builders, but any reasonable man can be shown to the contrary on short investigation of the prices of labor and material as they stand today.

South Carolina

S. W. Norwood, president of the Marion (S. C.) National Bank; Edward Cox, president of the Pee Dee Brick & Tile Co.; Lincoln S. Morrison, president of the Bennettsville (S. C.) Brick Co.; A. F. Wood, of Florence, S. C.; C. H. Williams, of Atlanta, and John McKenzie, of Augusta, Ga., held a meeting in Augusta on May 14, the meeting being in connection with the breaking of ground for the plant of the Independent Brick Co., of which they are stockholders, and which plant is to operate in Augusta. Further details in connection with the organization and operations of the company were perfected and it is understood that the plant will be completed as soon as possible.

South Dakota

J. W. Parmley, president of the Aberdeen (S. D.) Pressed Brick Co., has purchased the interest of H. R. Hasvold, treasurer and manager of the concern, and so becomes almost exclusively sole owner of the enterprise. The capacity of this plant has been oversold for months and it is the intention of Mr. Parmley to increase the manufacturing facilities and multiply the output to meet a growing demand for this material. Mr. Parmley's son is expected to take active charge of the works.

West Virginia

The entire plant of the Parkersburg (W. Va.) Shale Brick Works, with the exception of the machine shop and office building, was destroyed by fire of unknown origin on the night of May 7. The total loss has not been estimated as yet. There were about 25,000 brick in process of manufacture and these were probably ruined. There were also about 150,000 brick in the drying sheds.

Wisconsin

The Marshfield (Wis.) Brick Co. has resumed operations at its plant located a couple of miles north of the city.

G. A. Perry, C. R. Goldsworthy, Guy O. Babcock, C. F. Kellogg, O. R. Roenius and George M. Hill have been elected as a board of directors for the newly organized Vesper (Wis.) Clay Products Co. The directors met later and elected G. A. Perry, as president; C. R. Goldsworthy, secretary, and Guy O. Babcock, treasurer of the company. This is a \$500,000 corporation and will engage in the manufacture of drain tile and building tile with an output of about twenty carloads a day, employing about 100 men.



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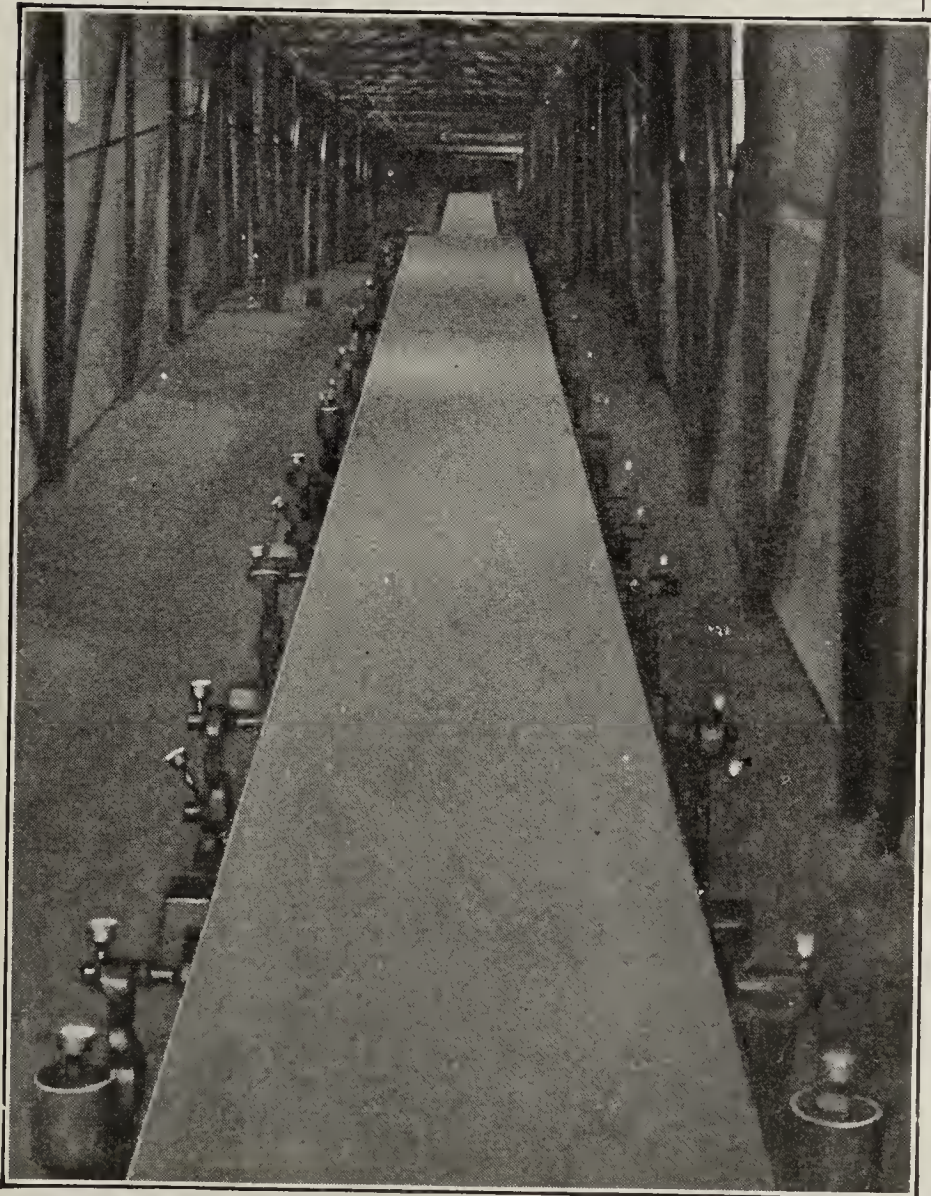
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ALLIGATOR REGISTERED IN U. S. PATENT OFFICE Steel Belt Lacing

will save time and trouble for you every time you lengthen or shorten a belt. To shorten the belt, merely pull out the pins, remove the stud, and connect the ends of the belt with one of the pins.

Alligator Steel Belt Lacing makes a joint as smooth as the belt itself. One man with a hammer can make a perfect joint in 3 minutes on any size or any kind of belting—leather, rubber, balata, cotton, canvas-stitched.

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MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

Dealers Will Name New Garford Sales Journal

Dealers and distributors of the Garford Motor Truck Co. will name the new monthly sales journal being published by the company. The initial issue of the publication has just been received.

As yet it is unnamed. The first issue invites members of the organization to suggest a name and offers a prize for the one eventually selected.

The publication is devoted to the interests of the motor truck industry. The articles embrace a number of phases of this, including manufacture, sales promotion, dealer aids, dealer and distributor activities, advertising, etc.

In keeping with the Garford policy to further the good roads movement, considerable space is allotted to this subject.

The publication is profusely illustrated and is printed in two colors. A series of articles by a writer styling himself "The Observer," and dealing with the various phases of motor truck manufacture, will be a monthly feature.

✻ ✻ ✻

Appointed Celite Representative

Due to the increasing demand for their products (Sil-O-Cel Brick, Powder and Cement for insulation and Filter-Cel for filtration) in the Detroit district, the Celite Products Co. has appointed Ward D. Dygert, Book Building, Detroit, Mich., as their representative.

Mr. Dygert is well known in this district and possesses engineering knowledge and sales experience that will enable him to creditably handle their business.

Warehouse stock will be carried to insure prompt delivery.

✻ ✻ ✻

A pyrometer sales and service department in charge of Mr. Henry Brewer has been opened at 1304 Monadnock Block, Chicago, by the Leeds & Northrup Co., of Philadelphia, manufacturers of the "potentiometer system of pyrometry and other electrical temperature measuring instruments." Service to pyrometer users and to prospective users will be rendered from this office. A complete standardization equipment will be maintained. Certification of thermocouples and of pyrometer equipments will be furnished in terms of standards certified by the United States Bureau of Standards. Particular attention will be given to maintaining equipment after installation.

✻ ✻ ✻

The many friends of J. Stanley McCormack will be glad to know that he expects to be discharged from Government war service about June 1, and will resume his former position as sales manager of Bell Locomotive Works, Inc., 11 Pine Street, New York, N. Y. At the outbreak of the war, Mr. McCormack enlisted and received his commission as a naval aviator, and has been detailed to special experimental aviation development.

✻ ✻ ✻

The Celite Products Co., 11 Broadway, New York City, has just issued Bulletin B-13, describing the use and application of Sil-O-Cel Plastic Cement to irregular heated surfaces for preventing heat losses and increasing the capacity of high temperature equipment. Copies will be sent on request.

✻ ✻ ✻

Bulletin No. 263, recently issued by Walter A. Zelnicker Supply Co., St. Louis, Mo., is free to the trade.

BRICK *and* CLAY RECORD

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Equipment Co.....1119
Lancaster Iron Works.....1053
Leschen & Sons Rope
Co.....1097
Link-Belt Co.....1058

Main Belting Co.....1043
Marion Machine Fdry. &
Supply Co.....1125
Marion Steam Shovel Co.....1055
Mason, H. V.....1100

Ohio Galv. & Mfg. Co.....1118
Old Ben Coal Co.....1052
Osgood Company.....1057

Pettigrew Foundry Co.....1124
Philadelphia Textile Ma-
chinery Co.....1102
Price Electric Co.....1099
Pulsometer Steam Pump
Co.....1108

Roessler & Hasslacher.....1103
Rollin Chemical Co.....1106

Sanderson-Cyclone Drill.....1098
Sauerman Bros.....1096
Schaffer Engineering &
Equipment Co.....1056
Schofield-Burkett1047
Selden Truck Sales Co.
Back Cover
Stanley Belting Co.....1103
Steele & Sons, J. C.....1123
Stevenson Co.....1101

Tecktonius Mfg. Co.....1116
Thew Auto-Shovel Co.....1049
Thwing Instrument Co.....1096
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chine Co.....1101
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Waterbury Co.....1107
Watt Mining Car Wheel.....1120
Weller Mfg. Co.....1040
Williams & Co., C. K.....1096

Zwermann, Carl.....1122

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The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

“The Everlastin’ Teamwork of Every Bloomin’ Soul”— It Won the War — It Will Bring Prosperity

“Business men should face the facts. To talk reverently of 1913-14 prices is to speak a dead language today..... We are on a new high-price level, which will be found a stubborn reality. Business men are going to find out that the clever man is not the man who waits, but the one who finds out the new price facts and acts accordingly.”

LET’S GO!

The EDITOR'S CORNER

Our Canadian Brothers

THE REPORT of the convention of the Canadian National Clay Products Association at Montreal, published in the last issue of *Brick and Clay Record*, seemingly would not be fully replete without an expression of the impressions derived by the representatives of this journal present at the meeting. Our Canadian cousins of a few years ago have become our Canadian brothers of today—this thought was mentioned at one of the sessions, and undeniably, it is true. The kinship is there, it is strong and lasting, it is true and sincere, and tested by time and conditions. And how gratifying it is to have this friendship ripen into stronger regard. One of the results of the world war has been the drawing together into closer commercial relations these two great countries.

It was indeed a privilege and a pleasure to be present at this gathering, to see the prevailing spirit of good fellowship, for it was everywhere; to feel the hearty handshake of our Canadian neighbors in the ceramic industry, and to partake of their hospitality—such hospitality as could only obtain among real brothers in trade. Their problems in ceramic activities are our problems, and vice versa; we know that they want to help us as we want to help them; we are partners in the clay working industry, and their success is our success—the trend of trade says so.

And do we always appreciate just what this trend of trade means? Let us review a few recent months in commerce interchange between the two countries. Canada is now and has been for some time past the principal foreign source of supply for the United States and is one of our best customers among all other nations. For the nine months ending in March, 1919, this country imported more from Canada than from any other nation. As a consumer of American goods, she is only exceeded by the United Kingdom of Great Britain, Ireland and Wales.

For the nine months period mentioned, our imports from Canada aggregated \$366,944,137, while from Japan, British East Indies, Cuba, Argentina, Chili, Mexico and the United Kingdom, which each rank in the order named, American imports ranged down to \$103,637,053 for the United Kingdom. Our exports to Canada in the same period totaled \$621,811,799. This growth of trade between these two countries is not accidental or just a happening thru conditions, but is a constant and steady climb upwards of the trade balance. Go back a little further, take the years 1917 and 1918, for corresponding nine months periods; here is what the figures tell us: 1917—im-

ports, \$209,095,230; exports, \$526,473,409; 1918—imports, \$322,182,290; exports, \$540,791,547.

From Canada we obtain wheat, cattle, wood pulp and paper, skins and hides, coal, meats, wool clothing, grass seeds, etc., only to mention the primary items. And to Canada we send steel and iron, coal, cotton, oils, tobacco and so on.

The prosperity of one nation reflects the prosperity of the other with this close and rapidly growing interchange of trade, and just so will the progress of the Canadian ceramic industry go to indicate the success attending American endeavor.

Brick and Clay Record is glad and proud to put its shoulder to the wheel to help, where needs be, our Canadian brothers, and in like manner those in the ceramic lines in the United States will respond. One does not need to ask if there will be reciprocity—that is certain.

* * *

To Adopt or Not to Adopt the Metric System

TO ADOPT or not to adopt the metric system of weights and measures seems to be a much mooted question. There is an active propaganda underway which points out that the present coinage of the British Isles as well as the weights and measures of both the British Isles and America are German. It is stated that the British pound both sterling and avoirdupois, originated with the old German Osterling Hanseatic League, which for hundreds of years controlled the trade of England. The propagandists say that the Germans forced these old standards on the British who in turn landed them in America. America and Britannia were one until 1776.

“What is still more remarkable,” to quote a recent pamphlet on the subject, “is that America and Britannia continued to use these old German tools after Germany had scrapped them, and adopted (in 1871) the simplest decimal system of quantity expression ever known to humankind—the application of the decimal to weights and measures which was the invention of that truly great Briton, James Watt, in 1783.”

The literature proceeds to call attention to the fact that world war news published in American newspapers continually included reference to metric units, for the simple reason that there was no time to translate them. It was necessary to buy, sell, quote and talk in metric units during the world war. These and many other interesting facts including an existing world postage system—world metric electrical industry—a world metric carat—a world science (including medicine)—world metric motors—and the knowl-

edge which forty million school children in the United States have of the metric system point out an imperative need to change by legislation our present system of weights and measures—so the pamphlet reads.

While all of this sounds very nice in favor of the adoption of the metric system the National Association of Manufacturers passed a resolution on May 22, 1918 at its twenty-third annual convention in New York City, opposing in no uncertain terms the adoption of the metric system and condemning absolutely the agitation in its favor.

The only reasons given for the opposition are an unfavorable report on the part of the British Committee on Commercial and Industrial Policy After the War, and the fact that the war was then in progress making it inopportune to effect such a radical change. To the writer these objections are not sufficient to disqualify the metric system for adoption in the United States. On the other hand there may be better and stronger reasons for opposing its adoption, which have not as yet been brought to the attention of *Brick and Clay Record*.

We would suggest that our readers following this subject communicate their views to us with permission to publish same for the edification of clay products manufacturers as a whole.

The adoption of the metric system in the United States seems to be an important question. May we not have some intelligent, frank and free discussion on the subject?

* * *

Time to Look Into Labor Saving Methods and Equipment

WHAT WAS PREDICTED by far-sighted individuals some months ago, namely a shortage of labor, is becoming less of an idle dream and more of a reality. Reports from the Department of Labor, which have shown an over-supply of workmen right along, are now showing much less of a shortage. The latest reports on idleness from Washington indicate a little over two hundred and twenty thousand jobless men—a reduction of six thousand over the previous week.

There are many reasons for believing that we may see a shortage of labor by autumn. In the first place the June crop report indicates a record-breaking yield of wheat. In fact the Department of Agriculture predicts a harvest of one billion two hundred and thirty-six million bushels and a yield of three billion twenty-one million bushels of feed grains, wheat, oats, rye and barley. It is going to take a large number of men to harvest this crop.

Secondly, building is opening up in a most auspicious manner. Conservatively speaking, there is a boom on at the present time which is practically nationwide. Building has always required a large amount of labor. This year will be no exception.

Thirdly, road building is looming up big. On the top of this, many foreigners are planning to return to their native land when peace is signed and conditions are somewhat more settled in Europe. Some interests are urging the restriction of immigration. This in the face of increasing activity in the steel industry. All of these signs point to an approaching labor shortage period.

There will be just one course for the clay products manufacturer to take in view of these developments and that is to turn to labor-saving methods and equipment. This is something which we have often urged in these columns so it is no new message to our readers.

There are many plants no doubt which, by the installation of the steam shovel, drag line excavator or other equipment in the pit, would save the labor of a number of men. A better arrangement of grinding and molding machinery has often resulted in the elimination of unnecessary "hands." Firing with producer gas, where that seems feasible, may also be used to effect a reduction in the number of men required in the burning process. This may also be said of the use of continuous kilns. Storage battery trucks and conveying systems of one kind or another have also been known to save labor.

The editorial and advertising pages of this journal are continually offering suggestions and ideas for eliminating unnecessary men around the plant. Better look into these methods and devices. Now is the time to prepare for the threatening labor shortage. You can do little after it arrives.

Now In Preparation!

What will, no doubt, be one of the most important volumes published in recent years on the ceramic industry is about ready to go on the press. "Modern Clay Plant Construction and Operation" is the title of this book, which is a compilation of articles written by A. F. Greaves-Walker. If you want a handbook on the clay plant, prepare to purchase this volume.

NEW CONGRESS WILL ESTABLISH CONTACT *with* *the* INDUSTRY *at* MANY POINTS

Three Issues Full of Meaning for the Clay Products Industry Now Before New Congress—Next Move to Answer "What Should Be Done With the Railroads?"—Agricultural Appropriation Bill, If Passed, Will Have Great Interest for Drain Tile Manufacturers as Upwards of \$74,000 Is to Be Expended During Official Year for Farm Drainage

By Waldon Fawcett

ALL SIGNS POINT to a prolonged session of the national legislature that will establish contact at many points with the clay products industry. The outlook is for a considerable amount of legislation that will affect brick and other clay products interests in one way or another and for the discussion and consideration in Congress of other issues, similarly significant which, whether or not the result be new laws on the statute books will, at least require attention and representation by associations and individuals in the clay products fields while they are up for discussion.

In some respects the 66th Congress has been rather slow in getting under way. That is apt to be the case, however, with any new Congress assembling in special or extra session and it is inevitable when there is necessity for the reorganization incident to change of party control. In the present instance, the shift of leadership from the Democrats to the Republicans has made necessary shake-ups in all the various committees where the real work of Congress is done and the consequence is that some of the bodies that will originate or pass upon many of the proposals that will affect brick and other clay interests are but just now "open for business."

THREE BIG ISSUES NOW TO THE FRONT

Three big issues that are full of meaning for clay interests have, however, been shoved to the front on the legislative stage at the outset of the session for all the readjustments that have been necessary in the working machinery of the law making body. One of these, left over as an urgent necessity from the previous Congress, embraces the prospective legislation on water power—a program vital to the development of extensive sections of the country where lie important resources for the clay industry. A second issue that is pressing for solution is that of the national policy to be pursued with respect to the oil resources of the country. Third, and most conspicuous of all, naturally, in the eyes of the majority of the men in the industry is the railroad issue—that is, the future control, regulation, management and operation of the common carriers of the country.

The committees on Interstate Commerce of the U. S. Senate and House of Representatives have plunged into

consideration of the sheaf of submitted bills offering all manner of solutions for the railroad dilemma and from now until the time when a permanent policy is definitely determined this whole subject of railroad status (involving, of course, railroad rates) is likely to remain a very live question. Up to date the executives of the brick and tile trade associations and their counsel have made no representations before Congress as to the legislation which the industry favors as most likely to result in a satisfactory solution of long-standing transportation problems. It is probable, however, that as a result of conferences to be held during the next fortnight in Chicago and Milwaukee arrangements will be made to have spokesmen for the industry acquaint Congress with the ideas of the clay products men whose tonnage represents so considerable a share of railroad traffic.

WHAT SHOULD BE DONE WITH THE RAILROADS

Circumstances will be auspicious because by the middle of June or a little later there will be filed with the Interstate Commerce Commission the big petition praying for a restoration of prewar rates on brick and tile and with the completion of this formidable appeal for relief the clay products manufacturers that have been engaged upon it will have a little leisure—pending the Commission's next move—to translate to Congress the sentiment of the industry on the moot question: "What should be done with reference to the railroads?" Incidentally, the questionnaire which is now about ready for submission to a thousand brick manufacturers is expected to yield evidence of the injustice and inequalities of the present rate system as applied to brick that will afford convincing proof to Congress as well as to the Interstate Commerce Commission of the need for reform.

Generally speaking, the leaders of the clay products industry who have been instrumental in the movement to secure for the trade, a more favorable basis for transportation charges are ready to endorse, as a promising means to that end, what is known as the Pomerene-Esch Bill, the leading railroad measure now before Congress and the object of which is to enlarge the powers of the Interstate Commerce Commission. There is a feeling on the part of some of the brick and tile men that this bill

does not go as far as it might to advantage but there is no clay products manufacturer but seems willing to concede that this measure is a step in the right direction.

THE POINDEXTER PROPOSAL

With respect to certain other railroad measures now in the legislative hopper at Washington, the clay industry's representatives are far less favorably disposed. Oddly enough too, some of these proposals might be supposed by the layman to be helpful rather than detrimental to the industry. A case in point is afforded by the Poindexter Bill the object of which is to so tighten up the long-and-short-haul clause of the interstate commerce law as to make it impossible for railroads to charge more for a short haul than for a long haul. The Poindexter proposal which has been hailed by some clay products men as more of a blessing than it would actually prove, has as its real object the removal of the irritation that is felt by receivers of goods at Salt Lake City, Spokane and other points, who are compelled to pay a higher rate on shipments from the Atlantic seaboard than receivers in Seattle, etc., who have the benefit of a thru trans-continental rate. The Poindexter Bill would also provide that there be no greater compensation as a thru route than the aggregate of the intermediate rates.

It will be realized that should this bill become a law it would take from the Interstate Commerce Commission the power to grant compensation in exceptional instances without observance of a hard and fast rule as to relative distances and it is claimed that in actual practice this would work out to the disadvantage of brick and tile plants located on railroads that follow circuitous routes if, as so often happens, the same territory is served by air-line roads that connect the same terminals by shorter and more direct route. In other words traffic experts in the service of the clay products industry declare that for all the real or seeming benefits that it might confer in some quarters the Poindexter Bill would be found to be "loaded" for other operators of clay plants.

AGRICULTURAL APPROPRIATION BILL

Clay products manufacturers have occasion to feel solicitude for the passage of one bill before Congress which might, at first blush, seem to have little interest for them. The measure is what is known as the agricultural appropriation bill and the feature that "comes close to home" is found in an item of upward of \$74,000 to be expended during the official year beginning July 1, 1919, in furtherance of the cause of "farm drainage." The money will be expended in investigating and reporting upon farm drainage and the drainage of swamp and other wet lands which may be made available for agricultural purposes and in preparing plans for the removal of surplus water by drainage. Drain tile and other materials and equipment needed for the Government's experiments in drainage engineering will be paid for out of this fund.

For some years past the farm-drainage operations of the Department of Agriculture have been steadily widening in scope with proportionate growth in significance to the tile industry. Not only are there in progress all manner of general investigations of the cost of construction of drainage improvements, but latterly there have been definite studies of the strength and durability of tile in various soils. A glimpse of the double-barreled benefit that this drainage work can confer on the tile industry was afforded only recently when the Government experts announced that a first-hand investigation showed that home-made concrete tile is, under stated conditions, liable to deterioration and is presumably, therefore, a poor in-

vestment for the farmer as compared with high-grade tile produced in well-equipped plants. Reports coming to Washington indicate that farmers who have installed tile systems under the expert advice and supervision of Government engineers are much better satisfied with results than have been some of the farmers who have essayed to install drainage systems unaided. With the proverbial advertising value of the "satisfied customer" this influence should tend to create additional prospects for the sale of drain tile in every neighborhood where one farmer has demonstrated that such a system is a profitable investment.

* * *

Are You Overlooking This Bet?

Brick manufacturers are overlooking a bet if they have room to stock coal and do not take advantage of the very low spot prices quoted on coal at this time. From information secured from many sources thruout the state of Kentucky it would seem that prices now are much lower than they will be later on in the year. For some months past the demand for all grades of steam coal has been weak, due to the fact that industrial consumers were overstocked in preparing for a long war period last fall. These concerns have been using up the surplus and not buying. Railroads have placed annual contracts, and domestic consumption is increasing. In getting out block coal the operator is having trouble in disposing of nut and slack which has forced a low spot market for such grades. This has also reduced the market on mine run, which is always affected by a cheap market on nut and slack, which can be burned just as readily by many industrial consumers, and which is in free supply due to many small producers not having screening facilities, and being forced to either close down and lose their organizations, or sell in competition with nut and slack. The result has been that excellent grades of nut and slack have been selling down as low as \$1.50 per ton at mines, with mine run at around \$2 and in some cases under that figure. None of the operators will make contracts at that price, or guarantee deliveries, merely offering to sell coal now on hand. Indications are for a high and runaway market this fall, with a big demand which will be held in check on deliveries by shortage of mine labor and car shortage.

Some domestic stocking is now starting, and mine prices have advanced from around \$2.80 to \$3.25 on many grades of block coal. Steam markets have been equalized by selling such coal as was in demand at high figures. However, the domestic coal is expected to continue high, with prospects that steam grades will start climbing and go sky high in the fall and winter. The labor situation is in bad shape, with mines generally short of help, and prospects of another wage increase or strike looming. Every indication is for high fall and winter prices, and the coal buying brick man should consider the situation carefully.

* * *

According to President V. F. Kreycik, the West Concord (Minn.) Clay Products Co. has more orders for building block on hand than they can possibly fill for the next sixty days. The company is now making three-cell building block and Mr. Kreycik says that if business keeps on increasing as it has been, they will be forced to double the capacity of the plant, changing from six to twelve kilns. The company has just purchased sixty three-deck dryer cars and are in the market for a 100 horsepower motor. Captain Frank N. Brooks, formerly a lumber salesman, is now sales manager of the West Concord Clay Products Co.

WHAT PAVING BRICK SHOULD BE *and* DO

A Discussion on Various Types of Brick Pavements, Their Relative Merits and Comparisons With Concrete Road Construction

By C. C. Wiley

Associate in Civil Engineering, University of Illinois. Synopsis of an Address Delivered Before the Illinois Clay Manufacturers Association, Chicago, April 6, 1919

MODERN BRICK PAVEMENTS are of two general types utterly unlike in principles of design and details of construction. Both engineers and laymen have been very prone to place them all in the same class and to be very slow to appreciate that there is any essential difference. In consequence there have been many blunders of both commission and omission in the design, construction and maintenance of our brick pavements of all kinds.

These two types, which I repeat are essentially different, may be for the sake of convenience called the soft-filler and the hard-filler types, respectively. The former embraces all forms where the spaces between the brick are filled with sand, dirt, tar, asphalt or any other non-cementing material. The latter includes all forms in which the joints of the brick are filled with portland cement grout.

The soft-filler type is the older and more familiar and the one most frequently found on our city streets. It consists essentially of a foundation course of some kind, a so-called cushion or bedding course, usually of sand, and a wearing surface of vitrified paving brick, the spaces between which are filled with some non-cementing but more or less waterproof material.

REQUIREMENTS FOR THE FOUNDATION

Just what the foundation course should consist of is absolutely immaterial as long as it satisfies the requirement of distributing the road loads over a sufficient area of the subgrade when that subgrade is in its worst condition. And hence comes the first essential of all road building—a thoroly drained, uniformly compacted subgrade which will always have a high bearing power. And I am frank to say that I often feel that we frequently spend money in heavy expensive paving slabs that more logically should be spent in making a better subgrade on which a lighter slab would render the same service at a less cost.

Originally a layer of gravel or broken stone was used as a foundation, but at the present time it seems to be generally considered that a concrete foundation is the best, but this is as yet absolutely unproved. Just why the concrete base was ever adopted seems difficult to many to understand, unless we had simply gone “concrete mad.” But in point of fact it was entirely a matter of economics. As portland cement became lower in price it seemed possible to substitute a thinner layer of concrete which by means of its beam strength would distribute the loads as satisfactorily as a much thicker bed of plain stone or gravel, and in so doing save money. But at the present time with existing prices and the difficulty of securing really good concrete aggregates it is by no means cer-

tain that this is still true. And, in fact, I believe that in many instances a reversion to the plain bases would prove economical, especially as use could be made of materials not considered ‘satisfactory’ for concrete aggregate. As to whether such foundations would be satisfactory there is no question. There are too many pavements already in existence to doubt it and even yet our railroads are carrying their enormous loads with every evidence of satisfaction on layers of gravel or stone.

BRICK IN SOFT FILLER PAVEMENTS

Now as to the brick in the soft-filler pavements. The first thing to keep clearly in mind is that in this type of pavement the brick retain their individuality. Each rests on its own base, on its own section of foundation, and transmits any loads which come upon it directly to the foundation with little or no support from its neighbors. It, therefore, follows that the individual brick must have sufficient strength to carry the loads that come upon it. Also it must have sufficient wearing qualities to resist the action of traffic. For such a pavement, I believe the best brick to be those with plain, square-cut, regular edges, without any spacing lugs. Such brick can be laid very close together, and hence present the smallest place for traffic to get at the edges and spall them off.

The hard-filler pavements are those in which portland



A Monolithic Brick Pavement is Shown Under Process of Construction in the Accompanying View.

cement grout is used as a joint filler, and herein lies the difference of the two types. Here the brick lose their individuality and become simply units in a new structure—a rigid slab. Such a pavement is a concrete pavement pure and simple as far as its structural characteristics are concerned. The same sand and cement are used, but in place of

the ordinary gravel or broken stone aggregate we have blocks of vitrified clay, regular in shape and of known or determinable quality, but cemented together in exactly the same way into one mass.

There are three varieties of the grouted brick pavement,



The Above View Illustrates the Laying of Paving Brick on a Sand Cushion Type of Pavement.

first, one with a brick slab on a sand cushion resting on a foundation course usually of concrete; second, the so-called semi-monolithic, and, third, the monolithic type.

SAND CUSHION TYPE OF PAVEMENT

The sand cushion type consists of a foundation course and cushion the same in the soft-filled type, but with joints in the brick filled with a rich portland cement mortar or grout. It was thought that such a filler would strengthen and support the edges of the brick, but it was hardly anticipated that the brick would be so strongly cemented together as to form a load-carrying as well as wear-resisting slab, and that the failure of the pavement would begin with the breaking down of this slab, but such is the truth of the matter.

The sand cushion type was, therefore, found defective in that any cracks in the base were sure to let the sand down, or the cushion shifted, or during construction worked up into the joints and the surface slab failed long before the foundation course gave way, all of which simply went to show that in this type of pavement, given a reasonably good subgrade, the strength of the pavement was governed absolutely by the strength of the surface slab. And yet we saw the absurd work of laying concrete bases for such pavements 5, 6, 7, and even more inches in thickness, and then placing what amounted to a concrete slab only about $3\frac{3}{4}$ inches thick to take the direct load. Which failed first? Why it would seem that any fool could have foretold. But as a matter of fact, the State of Florida was rather ridiculed for laying grouted slabs on natural sand soil without using a concrete base. The Florida roads have apparently stood up with those having eight inches of concrete and certainly cost less. If a sand cushion is used with grout filler it makes little difference whether it is two inches or two miles in thickness. But the curious thing is that we would actually build a 4-inch grouted slab to carry the load when no one would consider a plain concrete pavement less than 6 inches thick and now seem to insist on building a combined concrete and brick slab, the monolithic brick pavement 8, 9, 10 and even more inches in thickness.

SEMI-MONOLITHIC PAVEMENT

The semi-monolithic was developed by trying to make the sand cushion stay still. Cement was mixed with the sand

and setting up formed a solid bed, and unwittingly an entirely different load carrying condition was established. Here the two slabs were either directly bonded or so closely in contact that they acted practically as one, and, therefore, developed the full strength of each. The brick slab could not fail until the one of concrete did, nor could the concrete give way alone, and consequently the two mutually supported each other.

The monolithic pavement is simply a step further, in which the dry bedding course is omitted and the brick laid and grouted directly on the concrete bottom course, while it is still soft, so that the whole mass sets up together and unites into a single mass. Such a pavement is exactly analogous to the two course concrete pavement in which a very hard stone such as trap or granite is used for aggregate in the top portion. And in making comparisons as to either cost or durability it is logical only to make comparisons between these two.

To make any of the hard-filler pavements successful it is absolutely essential that the grout filler thoroly fill all joints and bind the brick together, and herein is the main point where this type is not fool-proof. To insure success the brick should have adequate spacing lugs making a sufficient but not too great an opening for the grout. There is no question but that the wire-cut-lug brick comes the nearest to doing this. In addition the brick must have a surface to which the cement will adhere. This means not only rough in grain, but also free from glaze. Such brick are not hard to make and will yield a slab equal in strength to one of road concrete of the same thickness.

Further the brick for all pavements must be uniform. In fact, this is the point of most importance. Modern traffic demands a smooth pavement. The first last and middle question, comment, or complaint concerning a road, old or new, is in regard to its smoothness.

PUBLIC DEMANDS SMOOTH PAVEMENT

The public is demanding a smooth pavement, the engineer must design and construct such a pavement, and in so doing will insist more and more on a uniform product from the manufacturers.

To make a smooth pavement the brick must be reasonably



Another Type of Brick Road Construction is the Soft Filler Type as Shown in the Photograph.

uniform in shape and size, that is, the product of any one plant must be, and it is desirable that all plants make the same standard size. Just what limits of variation in dimension are reasonable is hard to say, but I am confident that present specifications can be easily met. The most desirable

point of improvement is in regard to uniformity in depth, in order to minimize the difficulty of bedding the brick firmly and to a smooth and even surface.

Next, the brick must be uniform in quality. The rattler test is the most satisfactory test yet devised for determining uniform quality, but to my mind the official method of making this test is decidedly deficient. Personally, I would prefer to have one test with the brick marked for individual record than ten standard tests. Given a standard test the only data on hand is the average loss of ten brick, but absolutely nothing is known how much more than the average any of the brick lost or how much less. Given ten such tests there is available only ten such averages, and, consequently very little if any more intimate knowledge of the brick. But with the brick marked individually and selected to represent the various colors or shapes of the brick as they come one such test will give not only the average loss, but also the range in loss indicating which brick are grossly deficient and thus give some basis and knowledge on which to select or cull the brick. To my mind the various organizations, which, like the Illinois State Highway Department, insist on the individual record and put a premium on uniform quality are doing the most to promote good roads and the paving brick industry. Just what the requirements should be I cannot say, but it would seem to me fair to first set the average value desired, then the normal limits on each side of the average which will be permitted, and then allow a further tolerance of one or two per cent. which a specified small percentage brick may be permitted to exceed even those limits. Such specifications would be fair, easily met and enforceable.

NO DEFINITE THICKNESS RECOMMENDED

Nobody knows just how thick a pavement base should be, or how thick a concrete road should be. In fact, this is impossible to determine with our present knowledge. We can only lay a road and if it holds up we know it is strong enough, while if it breaks we know it isn't. But after some experience we can make a better guess and in addition we can make certain experiments which will aid our judgment.

When the monolithic pavement first came in a few years ago it seemed logical to conclude that total thickness of such pavements might be reduced. A few experimental sections were laid near Danville, Illinois, and at the same time the University of Illinois undertook to make some comparative tests. These tests are still in progress, but the results so far obtained seem to point to certain very definite conclusions. The results so far published may be found in the Engineering Record of January 15, 1916, and November 1, 1917. The published results deal primarily with monolithic brick and concrete, while the tests under way deal with the soft-filler types as well. Bear in mind that these tests do not tell how much load the road will carry, but do tell what relative strength the various slabs have, and, therefore, what relative loads they should carry or what their relative thickness should be for the same loads. Or, in other words, if it is agreed that a six-inch road of one kind is needed we can by comparison determine what thickness is required in another type.

STRENGTH COMPARISON OF PAVEMENTS

As a result of our tests we firmly believe that a monolithic brick road is as strong, inch for inch of thickness, as the usual concrete road. In these tests we used a bottom course of 1:3:5 concrete with the brick, and made our comparisons with concrete slabs proportioned 1:2:3, all using aggregate such as is commonly acceptable in one course concrete roads in central Illinois. Altho the averages actu-

ally indicate a slightly greater strength in the brick combination we believe it preferable to consider the two types as on a par to allow for possible variations. This is decidedly at variance with the usual specifications which make the brick pavement two or three inches thicker than one of con-



This is a Very Good View of a Completed Brick Road Which Has Been Slushed With Cement. The Thickness of the Concrete Base is Also Shown.

crete, or to the usual promotional method of comparing a six-inch concrete of the cheapest kind, made of ordinary gravel or limestone, aggregate with a brick pavement of the highest type, of higher wear resistance and at least 50 per cent. thicker. It certainly is not logical to expect to get the latter at the same price, if for no other reason than that it has half as much again material in it, nor is it logical to make the latter 50 per cent. thicker, if the former is sufficient to carry the load.

Experience parallels the experiment. The sample sections at Danville are in perfect condition. Based on these sections and the results of our tests, Stockland Township, Iroquois County, built 6.5 miles of nine-foot road, using four-inch brick on one inch of concrete—a total of 5 inches. I was over this road during February of this year when most of it had been thru its third winter. I am frank to say that it is in as perfect condition as any road of the same age and length and of any type that I have ever been over. Its cost three years ago was about \$8,800 per mile. Several other sections of similar design have been built, and the story is the same. Four years ago, when Vermilion County was pushing its bond issue, a type of road of the same total thickness was proposed in competition with the concrete sections, but it raised an awful howl, organized opposition—financed no one admits how—developed, and it was lost. Some time at your leisure travel over the bond roads of that county and draw your own conclusions.

And one more point, remember that the rich mixtures for concrete were not developed to give the pavement load carrying strength, but to develop sufficient wear resistance. Good paving brick has this quality, but it does not follow that the rich mixture is required in the bottom course. Our tests used 1:3:5 for the brick base, against the 1:2:3 concrete road, and developed equal or greater strength for the brick slab. There seems no good reason for making a monolithic brick road thicker than a concrete road would be made in the same place, nor in using a concrete of unusual richness.

On the whole, therefore, it seems to me that the public, the road official, the manufacturer and the engineer should get rid of prejudices and preconceived notions, wake up to the present day, take off his concrete spectacles and look the

road game squarely in the face, and then get down to brass tacks and put the best material in the best place, in the best

possible manner, and give to our country the roads that she needs and deserves.



Large Cleveland Firms Effect New Arrangement

The announcement has been made of the acquisition of the brick manufacturing plants of the Camp Conduit Co., of Cleveland, by the Barkwill-Farr Co. and the Cleveland Builders' Supply Co., both of Cleveland. The taking over of the Camp Conduit Co.'s interests by the two other concerns is held to be for the reason that the cost of distribution of brick has mounted too high for the good of the business.

For the present, according to officials of the Cleveland Builders' Supply Co., the product of the Camp Conduit Co.'s interests will be handled by the Barkwill-Farr Co. and the Cleveland Builders' Supply Co. The distribution will be under the two firms mentioned above, but under one central control.

This action is merely preliminary and it is believed to be only the beginning of an entire reorganization of the building material concerns affected. The chief object of this action is to obtain an adequate supply of brick with which to meet the Cleveland demand at a price that will be lower than otherwise and indirectly to stimulate additional building.

Not only will better distribution and lower cost of distribution of clay products be possible under the new arrangement according to the statement issued by the companies involved, but the product of the Camp Conduit Co.'s interests will be confined entirely to Cleveland, where it is needed most.



Exports of Clay Products

From figures now available covering the exports of clay products from the Port of New York during April, it is shown that the shipments of china ware exceeded all other ceramic specialties, with sanitary earthenware second and fire brick following. The different totals are as follows: China ware, \$38,815; the largest shipments were sent to England, \$25,000; Chili, \$2,926; Bolivia, \$3,500, and Mexico, \$1,207. Sanitary earthenware exports aggregated \$28,707, with principal accounts to Norway, \$3,013; Panama, \$1,211; Cuba, \$6,817; Colombia, \$2,031, and San Domingo, \$1,110. The shipments of fire brick totaled \$22,121, with largest shipments as follows: Chili, \$7,025 (27,000 brick); Brazil, \$3,990 (40,000); Peru, \$3,703 (39,000); and Panama, \$5,358 (32,000).

Other earthenware products aggregated \$14,513, with largest shipments to Chili, \$2,001; France, \$7,764, and Brazil, \$1,270. In this month the amount of fire clay exported totaled in valuation \$859, and 37 tons of material; this aggregate was divided between Mexico, Cuba, Brazil, Chili, Venezuela and Italy.



Building Investigations in Baltimore and Washington

The results of investigation in building conditions made by special committees in the cities of Washington and Baltimore, show that there is nothing to be gained by further postponing of building projects and that the present level of prices of both material and labor repre-

sents a stable basis from which to figure construction work for the year 1919.

This conclusion is amplified and backed up by detailed analysis of the various factors of building costs, brick, lumber, hardware, mill work, erection costs of structural steel and building materials generally, in some of which declines are noted since the armistice, but in none of which will there likely be further decline.

Labor costs are not so much commented on as a hindrance at this moment to an extensive building movement in these cities as is the instability of labor with regard to its wage; with this eliminated much building, it is believed, would ensue.

It will be interesting to note the following wage scale which prevailed in November 1918 as compared with that of April 15, 1919:

	WASHINGTON SCALE		Baltimore Scale
	per Hour Nov., 1918	per Hour April 15, 1919	
Bricklayers	\$0.87½	\$0.87½	\$1.00
Stonemasons, cutters, setters.....	0.75	0.87½	.75
Outside ornamental ironworkers	0.80	0.92½	1.00
Structural ironworkers	0.80	0.92½	1.00
Plasterers	0.75	0.87½	.....
Lathers	0.75	0.81¼	.75
Hoisting engineers	0.80	0.92½	.80
Tile setters	0.68¾	0.75	.80
Plumbers	0.75	0.87½	.....
Steamfitters	0.75	0.75	.87
Elevator constructors	0.72	0.72	.85
Pipe coverers	0.62½	0.70	.80
Roofers (slag)	0.40	0.40	.60
Roofers (slate)	0.75	0.80	.75
Carpenters	0.75	0.75	.70
Painters	0.75	0.75	.70
Sheet metal workers.....	0.75	0.75	.....
Electricians	0.75	1.00	.75
Cement finishers	0.70	0.87½	.75
Hodcarriers	0.35	0.35	.50-56¼
Laborers	0.46	0.40	.35-.45
Marble setters	0.75	0.82½	.75



Trust Control Recommended in England

The Committee on Trusts appointed by the British Minister of Reconstruction in February last year has now prepared its report on what action may be necessary to safeguard public interest in view of the probable growth of trade organizations and combinations.

Altho this report has not yet been published, the American Chamber of Commerce in London understands that the Committee's recommendations are of a moderate character, being chiefly that the Board of Trade should establish tribunals for investigating the operations of monopolies, combines and trusts, recommendations then to be made to the Government for action to remedy any abuses.

All members of the Committee are believed to have signed the report, but the American Chamber in London further understands that three of the Committee members have submitted an addendum expressing the opinion that the recommendations are insufficient. Their view is that the business world is no longer governed by free competition but that capitalist combination influences the price of practically every commodity sold to the public.

They recommend, therefore, that the Board of Trade should establish a Trusts and Combinations Department to draw up a program to protect the community against the evils of monopolies and to secure for the public a larger share of the economic benefits which may result from the better organization of industry.

The SALESMAN'S PERSONALITY

The Second of a Series of Articles on the Important and Vital Subject of Salesmanship

THERE IS BIG MONEY NOWADAYS in the selling end of the big business and there ought to be good money in the selling end of any business. The reason for the failure of many a concern is the lack of ability to sell goods, either on the part of the proprietor or on the part of his selling force. No matter who does the selling, the rule is always the same; the better the salesman, the more his sales.

To develop the selling power of the men who meet the customers is to develop the business.

In order to be a success as a salesman, you must first be a success as a man. Begin at the beginning. If it is too late to begin at the beginning, then begin right where you are. It will never be any earlier.

There are a few so-called "born salesmen," men to whom the art of persuading others to buy is as natural as it is for them to eat or to breathe. Such men are comparatively few and may succeed without instruction, tho the man who can learn nothing about his work is rare.

CULTIVATE A GOOD PERSONAL APPEARANCE

The salesman should commence by cultivating a good personal appearance. This does not mean that he should wear Sunday-go-to-meeting clothes every day, or that he should dress foppishly. That would be a mistake, but he ought to dress well.

Never look slovenly. Start in clean every morning anyway. A man may dress for rough work and yet be neat. Untidiness is inexcusable. There may be a good many people on whom your clothes or general appearance will have no effect whatever, but even those people will take no exception to your good appearance. And plenty of people, men as well as women, are fastidious and take note of any lack of neatness in dress.

Nobody likes to do business with a salesman who is offensive in any way. A disagreeable breath, dirty linen, blackened teeth, unkempt hair, all these send somebody away or affect somebody adversely, tho not the slightest hint of it may be given.

I am not accusing salesmen with any greater laxity in such matters than any other class of business people. We are all likely to become slack in matters of dress or care of the body. The individual who never does backslide in such directions is not in need of any advice upon the subject, but there are a good many who need to be prodded vigorously and constantly.

IMPORTANCE OF GOOD PHYSICAL CONDITION

Physical condition too has more to do with selling success than we are apt to think it has.

To be a good salesman, to be fit to compete with the brightest of competitors, a man needs to be right on his tiptoes when he is talking to a prospective purchaser. He must be alert in every sense. His mind must be keen and his wit nimble.

Can any salesman fulfill those conditions after a night out with the boys, or when his mind is befogged with alcohol or tobacco?

Probably there have been instances where a salesman has apparently succeeded, tho addicted to all manner of

vices. But no matter what the facts of his success may be, if he has had any, it has been in spite of this severe handicap and never on account of it.

There are handicaps and disadvantages enough in business without a man loading himself up with any unnecessary ones.

You not only should have no handicap of ill condition to overcome, but you should, if it is a possible thing, be so fit at all times as to possess an advantage over the other fellow who is less careful.

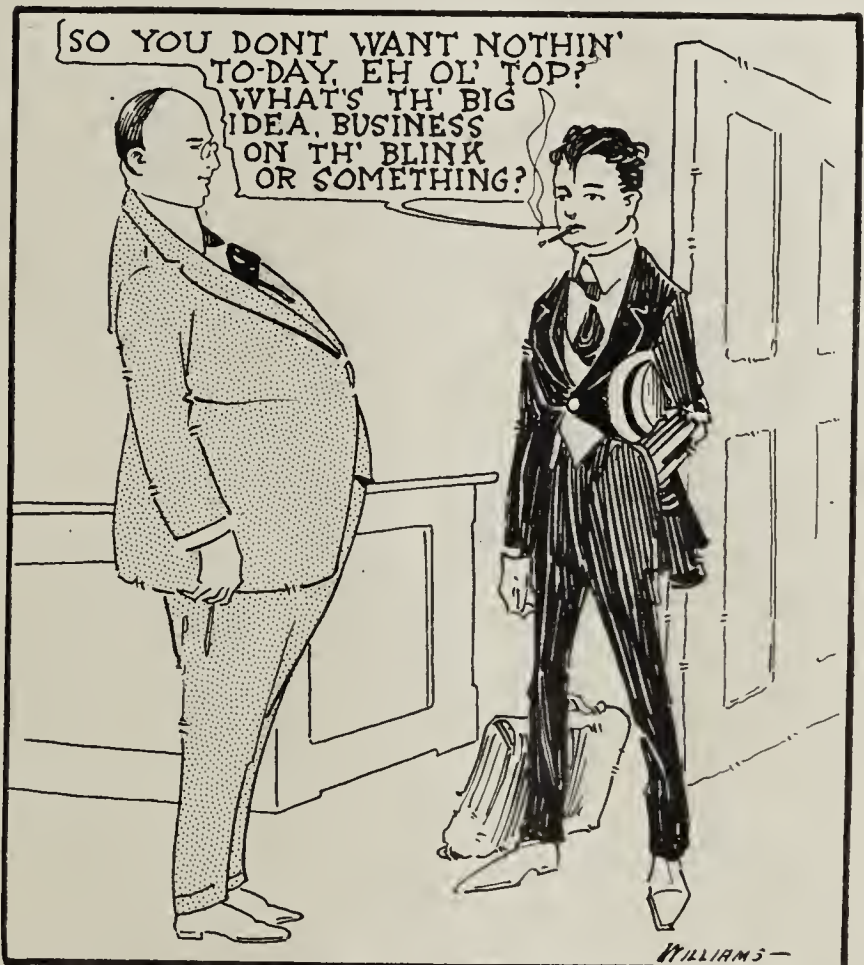
Big selling organizations are nowadays giving the most careful attention to matters of physical fitness. They know that no man or woman can do high class work in low class physical form.

Can you induce a customer to buy a better article than he intended; can you make large and satisfactory sales when you are suffering from a headache or a toothache, or even when you are feeling dull and listless?

LAZINESS

There is one quality in particular that spoils a man for successful salesmanship. It is a common quality, one that troubles most of us at times—laziness.

It means the absence of energy. Nobody ever heard



Nobody Likes to Do Business With a Salesman Who is Offensive in Any Way. A Disagreeable Breath, Dirty Linen, Blackened Teeth, Unkempt Hair; All These Send Somebody Away or Affect Somebody Adversely, Tho Not the Slightest Hint of It May Be Given.

of a lazy hustler. Nobody ever heard of a man succeeding if he possessed the habit of letting whole hours slip by in idleness. If you are going to succeed in your business, there is no time to be lazy.

This has nothing to do with vacations. Every one needs occasional rest, but rest is not laziness. It is simply the necessary relaxation that allows the mind and the body to renew energy.

While a man is on duty he should cut out mental and physical laziness absolutely. He should be filled with an energy that will keep him looking for something to do.

We are fond of calling the commercial successes of today "live wires." That is what they are every minute they are on duty. They may let down and shut off the current while they are away from business. It is wise that they do. But did you ever see one of these "live wires" loafing on his job?

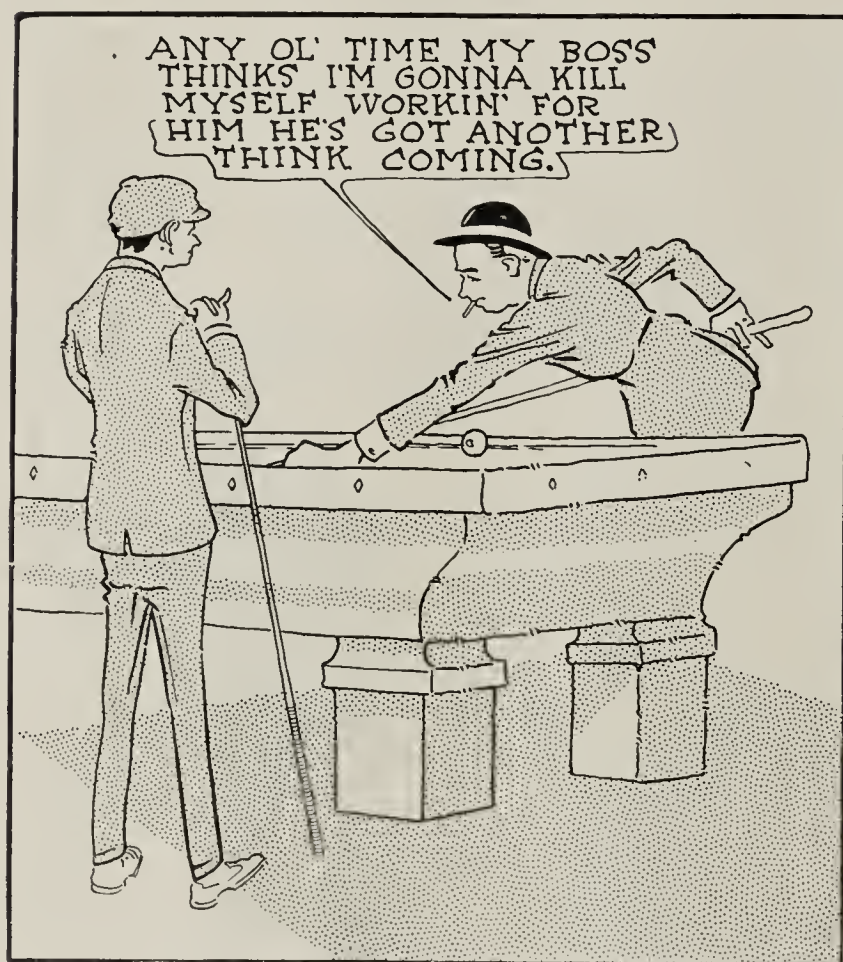
You who have already achieved success in your business, or established a trade you think will last you out, may be able to afford the luxury of taking it easy occasionally during working hours, but you will not do it.

You who have not yet reached the height of your ambition, and that means about nine hundred and ninety-nine men in every thousand, cannot spare time to loaf. You need to put in all the time not required for rest or recreation in doing or in learning how to do.

A MISTAKEN IDEA

Now, I know some salesmen are going to read this who will say, "That's all right, but you needn't think I'm going to work myself to death and lose all the fun in life for the salary I'm getting."

The man who takes that attitude makes a mistake. He



Some Salesmen Who Read This Will Say: "That's All Right, But You Needn't Think I'm Going to Work Myself to Death and Lose All the Fun in Life for the Salary I'm Getting."

probably does his employer some injustice, but he does himself infinitely more.

The employer is entitled to get more work from his employes than he pays for, or he will not make any profit on them. But if he has a salesman who is not making good, he can let him go. You, as an employe, cannot do your employer any more injustice than he is willing to permit. But you cannot get away from yourself. By shirking, you are robbing yourself of the advantages of experience, and you are saddling yourself with the qual-

ities of a quitter—something you do not wish to be.

If you expect to be successful some day, you must begin right now to develop the qualities required for success. Success comes because one has developed the qualities that make it. The rule never works backward. No man ever became a success and then developed the necessary qualities afterward.

HARD TRAINING NECESSARY

The good salesman is not the result of a day's study. Salesmanship is not to be picked up at odd times. It is not a smattering of this and that. It is a well developed mental condition, and it comes only with a course of hard training in the school of experience.

The man who would be a good salesman must have the courage to stick to the learning. Sticktoitiveness counts for almost more in salesmanship than in any other line of work. The man who cannot stick cannot sell any line of merchandise. He may be able to hand out the goods that are asked for, but his usefulness ends with the absolute demand of the customer.

You must stick in order to learn salesmanship and you must stick after you have learned it. If you are easily discouraged and cannot get over that unfortunate quality, I would be inclined to advise you to get out of the business of selling.

Still, when you come to look over the field of vocations, you will be quite apt to find the places where no sticking quality is needed are all filled—with failures.

ADVICE IN READING

I advise the man who would be a good salesman to read. I advise him to read his trade papers and literature about the goods he sells, and I further advise him to read some good literature every day to develop his mind and his vocabulary.

You probably think you can't learn much about selling goods out of literature of the real literary sort, but let me tell you something. Every statement you make to a prospective buyer loses or gains something in the way you make it, in the way you use and arrange the words.

The men who have made the good literature of the country, the strong writers, know how to express themselves in the way that gives the fullest value to what they have to say.

By reading just a page or two of that kind of literature every day you are certain insensibly to absorb some good language and to learn some new words that can be made to bring in a money return when the right time comes.

The talker, the salesman who uses poor grammar, labors under a handicap just as surely as he who uses booze and tries to mix it with his business.

"HITCH YOUR WAGON TO A STAR"

I believe any man can be or do almost anything he sets out to be or to do. I believe that even for the average man success is possible beyond anything he himself realizes.

The trouble with too many fellows is that they set out with the idea that they can accomplish only so much. They place a limit on their ability, and naturally they cannot rise above that limit.

Every salesman should assume that he is competent to handle any class of trade. He should acquire a self-confidence that will enable him to hold up his head in any company. He should have faith in his ability to make people think about the goods as he himself thinks.

If you limit yourself in your selling ambitions, you will never be a salesman. You will stop with being an order taker, a mere puppet. The man who does not aim high

will never shoot high, and the man who shoots at cheap trade will get no more than that at which he aims.

If you know a high class salesman in any line and have an opportunity to watch him work, watch it at every chance. See how he sells the goods. Buy from him yourself if necessary in order to find out. Get the high class bee in your bonnet and keep it there. If your first efforts along that line meet with failure, remember that few things are worth doing that can be done easily at the first attempt. Success in doing those things worth while is secured only by practice. Perfection in any kind of work comes only with abundant training.

Few salesmen treat every customer as an opportunity. They make it their business to sell the goods that are asked for, and then stop there, and no man ever became a hundred-point salesman on that basis.

PERFECTION IS NO TRIFLE

Of course it is not to be expected that every traveling man will become a perfect salesman. Perfection in anything is rare. But its rarity and the difficulty of attain-

ing it need not prevent any of us from trying to become as nearly perfect as we can.

Michael Angelo said, "Trifles make perfection, but perfection is no trifle." We are too apt to think this or that little thing is not of enough importance to bother with, when as a matter of fact, the great things are all made up of the little ones.

All the qualities that go to make up a man, help to make the successful salesman. Honesty, industry, sobriety—everyone of those homely old virtues counts in salesmanship.

The salesman cannot show qualities that the man does not possess. The man will show thru the front of the salesman and attract or repel the people with whom he is trying to do business. You may think that in so far as your relations with your customers are concerned, it does not make any particular difference what kind of a man you are under the surface. You are all wrong. You do not give the public credit for the discernment it really possesses.



STRIKE *of* BARGE CAPTAINS THREATENS *to* TIE UP BRICK BUILDING *in* NEW YORK

SHADOW OF SAM PARK'S EFFORTS to unionize the brick industry of New York and vicinity in 1903 with the eleven weeks of total tieup of building construction, have fallen upon the city at the moment when the housing problem seems to be at a point of solution thru co-operation of financial interests and building material distributors, according to The Dow Service Daily Building Reports of June 9.

The blunt facts reveal that the brick barge captains, as intimated in this column in March, have left their boats for a new wage of \$175 a month instead of \$125, the unloaders have struck for \$1 a thousand instead of 80 cents, the brick manufacturers, unwilling to go to the prospective consumer with the necessary price advance of from \$2 to \$3 a thousand, wholesale, have decided to stop sending brick to this market, resulting in still further checking manufacture of this essential building commodity up the river; barge owners will unload their boats and turn them over to general freight handling in this and other harbors and, when the 2,000,000 brick now in the market are unloaded and distributed, building must stop, except insofar as reinforced concrete and lumber can supply the building needs.

The price of Hudson common brick in ordinary grade in this market is \$15 a thousand, to which price the consumer must pay cartage, handling costs and 10 per cent. Before the war the price of this commodity was from \$5 to \$6 a thousand. If the new wage rate went into effect the base price to manufacturers, with not more than 6 per cent., would be in excess of \$16.50, wholesale dock.

The six barge loads of brick still unloaded in New York will last the present market only about ten days. There is always recourse to sending in brick by rail, but the cost will register much higher than the present dock price of \$15. It will represent to the builder between \$35 and \$40 per thousand, laid in the wall in lower Manhattan or central Brooklyn.

BARGE CAPTAINS' STRIKE CAUSES TIE-UP

Brick barge captains have been ranked by manufacturers as "part of the plant." They have occupied the same

relative position to the manufacturer as the captain of any other merchant craft as they must have some business and general trading ability. They are invariably a dependable, well-set-up class of men and as such have, in many cases in the past, been manufacturers' representatives here. The solicitation of the labor union leaders in the past has not attracted them and in 1903 when Sam Parks attempted to wield his influence over the Hudson River brick industry, it was the brick barge captains that were largely instrumental in foiling the attempt. The captains have, however, recently affiliated with the hod carriers and brick layers' helpers, in order to enforce their demands for higher wages and the walk-out was scheduled for April 1. The situation with regard to the high cost of brick and the scarcity of building and the general attempt by financial interests, manufacturers, dealers and contractors to keep building costs down, resulted in a sort of unsigned armistice. In the interim the affiliation was completed.

Unloaders on Saturday were refusing to lighten boats that had no captains. The tie-up is complete with danger of sympathetic strikes developing. Contractors having rush jobs were discussing on June 7 the possibility of bringing brick here by a chain system of motor trucks, but this alternative would force the price of brick to formidable levels. The brick barge captains are not associated in any way with the harbor boat captains, whose recent strike held up traffic in the harbor.

The fact that the State Legislature is represented by a committee studying ways and means of meeting the housing shortage, and with Federal officials keenly alert to speedy alleviation of the distress this coming winter, word was heard Saturday morning (June 7) in financial and building circles regarding the matter of formally calling the attention of Governor Smith and the Federal authorities to the effect this strike will have upon further aggravation of the house-building program in time to meet even in part, next winter's demands, and urging him to take steps at once to either adjust the present wage demands of the men or remove the stigma that has been imputed to brick manufacturers that they have been

profiteering. One prominent manufacturer said Saturday that he would close his plant rather than grant the demand of the men because it would make the price of brick so high in this market that the consumer would not understand the cause. Other manufacturers viewed the situation in a similar light.

DEALERS TO CLOSE OFFICES SATURDAYS AT ONE

Becoming effective June 14 and continuing until Saturday, September 13, inclusive, mason material distributing yards will close their offices for delivery orders at one o'clock Saturdays for the first time in local building material market annals. This rule applies to establishments in Manhattan and the Bronx, but the probabilities favor similar action by the Brooklyn dealers. Contractors will save disappointment on deliveries by making their orders on Thursday and Fridays cover their week-end requirements.

Price advances last week showed a sharp jump in the price of linseed oil to \$1.76 in lots of less than 5 barrels and \$1.73 for lots of 5 barrels or more. Price advances have also occurred in plate glass. So tremendous has been the demand for plate glass for the automobile and furniture trades, that in the low stocks of small sizes of plate glass, recourse has been taken to the stocks of large sized building plate glass which costs more than the smaller sizes. This glass in stock has consequently been greatly depleted in volume with the result that a drop of two points has been made in sizes below and above five square feet to the building trade, effective June 9.

Other price movements are upward. Wire products prices are going to be higher in the autumn. Mill operations now are 85 per cent. of capacity. Sheet steel mills are now operating at 65 per cent. There are no evidences of price concessions. Neither are shadings reported in structural steel; consequently there is no incentive to buy ahead. Some manufacturers of range boilers are refusing to accept business at the recently reduced price. One radiator valve manufacturer has withdrawn recent prices representing cuts. In the electrical department, schedule materials are surely slated to go up. Some of the associated manufacturers will announce a new price list this week or next, with advances on key sockets. Some factories have taken large orders in anticipation of the advance. The railroad delivery situation is exceedingly acute in the cut stone market. Portland cement manufacturers are operating at greater capacity in the two near-by zones than they were two months ago. There will be a price change in this commodity by autumn, if not sooner. It may be accelerated if the brick situation is not promptly settled.

The building market, despite the labor difficulty, is developing into essential commercial construction and alteration work with financial backing enough to carry it thru. Bigger men have hold of the building situation today than ever before.



Some Cleveland Brick Men Advance Prices

Settlement of the bricklayers' strike in Cleveland, Ohio has had a good effect upon brick construction and the brick business. An arbitration board awarded the strikers \$1 an hour, instead of the \$1.15 they asked.

Probably the most significant effect upon the business has been the increase in prices by certain firms and dealers. In all instances the brick interests lived up to their promise to keep prices at the low level fixed March 1 for three months. Steadily mounting costs of production have

forced producers, however, to return to the former level, and this has been done by the Barkwill-Farr Co., since the time for the agreement to hold prices down has expired. Common brick has been advanced 50 cents, and selected face and shale brick have been advanced \$1. Scratch face prices remain the same. The average increase in building tile prices is \$9. Drain tile prices remain the same. New figures follow:

COMMON BRICK	BUILDING TILE
\$13.50 per M. Kiln Run	\$32.00 per M. 5x4x12"
15.00 per M. Hard	60.00 per M. 5x8x12"
19.00 per M. Selected Face	95.00 per M. 5x12x12"
SHALE BRICK	DRAIN TILE
\$17.00 per M. No. 1 Grade	\$23.00 per M. 3 inch
24.00 per M. Scratch Face	33.00 per M. 4 inch
	55.00 per M. 6 inch

"The effect has been to increase business rather than the reverse," says J. M. Beville, production manager, of the Barkwill-Farr Co., "and more orders have been placed, presumably upon the assumption that the brick should be taken before any more advances occur. We soon expect to be running upon an 85 per cent. basis."

At the Cleveland Clay Products Co., the assurance to prospective customers is being given by Leo A. Kreuger, president, that brick prices will be no lower, and this is backed up by the statement that the Alliance Buff Brick Co., for example, has unfilled orders on hand right now totalling 3,000,000 brick.



Russian Engineer to Build Clay Factories

Alexis Zakharoff, a Russian civil engineer and brick-maker, who has contributed to this journal in the past, is preparing to go to Siberia this month as chief engineer for the American Siberian Construction Co.

Last Year Mr. Zakharoff took a short course in ceramic engineering at Rutgers College and worked for several months under the personal supervision of Prof. George H. Brown in the ceramics laboratory at the above school.

The purpose of going to Siberia is to construct factories for the manufacture of brick, sewer pipe, paving brick, cement and other building materials. Mr. Zakharoff writes "I certainly will recommend the building of all of these factories according to the best American standards."



Stull Describes Work of Ceramic Station

On page fourteen of "The Ohio State Engineer," a magazine published quarterly by the students in the college of engineering, Ohio State University, there is published an article of interest to ceramists. R. T. Stull is the author of the manuscript entitled, "Work of the Ceramic Experiment Station of the U. S. Bureau of Mines."

Mr. Stull tells of the problems investigated by the station most of which dealt with the questions of importance to ceramic wares used in the metallurgical industries and on researches and surveys of domestic white burning clays. The study of the preparation of dolomite for the manufacture of refractories has also been taken up but so far the work has not progressed far enough to draw definite conclusions, but it can be said that "the results are promising," states Mr. Stull.

STEAM SHOVEL PRACTICE

on a CLAY PLANT

Telling of the Author's Experiences With Steam Shovels and How to Obtain Successful Operation With This Important Factory Apparatus

By William Burgess

Superintendent, Don Valley Brick Works, Toronto, Ont. Read at the 17th Annual Convention of the Canadian National Clay Products Association, Montreal, May 27, 1919

WE HAVE SEVERAL METHODS of excavating or removing earth and it has been said that it originated in war, and what we have heard and read about the digging of trenches and building of railways during the late war by steam shovel, excavations, and the small trench spade used by the troops in France and Belgium would lead us to believe that the old saying was true, "Earth excavations originated in war." It must be recognized that our most modern methods represent a steady development of less than a half century, and nothing could be more certain than that it has very closely kept pace with the great strides made in the methods of transportation, from the ox and horse drawn vehicle, to the high speed electric and gas motors, not forgetting the steam locomotives. No doubt one of the most important factors in modern methods of handling brick clay has been the development of the electric or steam driven steam shovel. This development has been measured by the requirements of the brickmaker, and has kept pace with the constantly increasing demands of economy and efficiency. In this connection it is interesting to note that within the last twenty years the operating capacity of the largest shovels has been doubled; this increase has been gradual.

SIZE AND DESIGN DEPENDS ON KIND OF WORK

Experience has fully proved that whatever is feasible or desirable from a commercial or economic standpoint can be built from a mechanical standpoint—the size and design of the shovel are dependent upon the kind of work you want it to perform to ensure its profitable employment. You must select a type of shovel suitable for your own bank or conditions of clay pit. In 1903 the Don Valley Brick Co., Ltd., bought a shovel of about 25 ton weight, short boom, for their wire cut brick clay bank, which is about 65 feet in height. This shovel was always in trouble either in clay falling on it because it was too close up to face of the bank or by breaking its stiff legs or mast by heavy work. After three or four years of almost continuous repairs and trouble we decided to make a change, and after looking around several brick plants on the other side of the line, we decided to get a 75 ton shovel with a 40-foot boom. This shovel has given entire satisfaction, repairs have been very small; no falling of clay on shovel, no breaking of stiff legs, use 75 per cent. less dualin in shooting bank down, cranes and shovel runner in no danger from falling clay, and more pleasant working conditions generally.

The small shovel was removed to our upper clay bank

or buff clay, which is about 21 feet high, where it has been very satisfactory digging as much as 200 cubic yards of clay in 9 hours. The machine does not break its stiff legs, and the clay does not fall on shovel because bank is about the right height for it to reach. We have to loosen the bank up on top occasionally by using dualin.

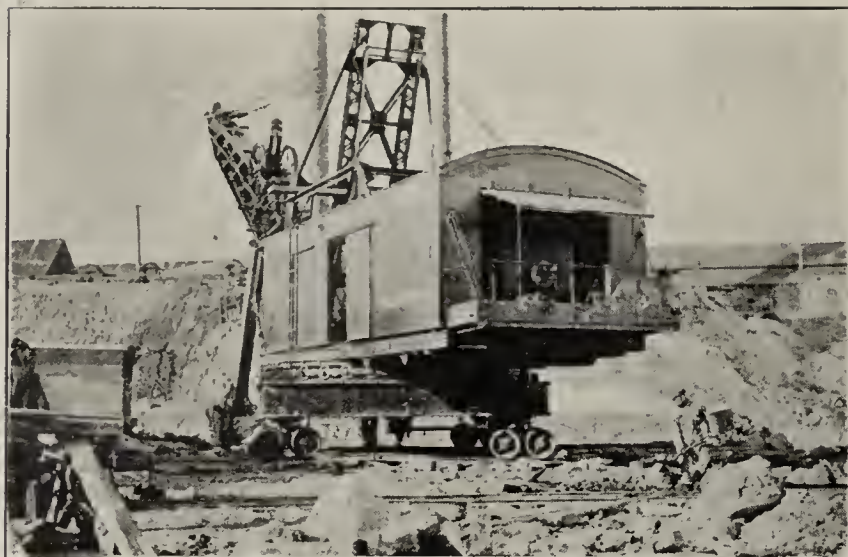
This comparison proves to me that it is very essential to get a steam shovel which is right for your clay bank. We thought our 25-ton shovel was useless while on 65-foot bank, but when put on a 21-foot bank it was just as useful as the 75-ton shovel is on the 65-foot bank. Track shovels used for railway constructions are generally built to railway gauge, so as to run on any railway track. Shovels used for highways, canals, brickyards and other work are mostly wide tread wheels, using heavy plank under the wheels where the clay is soft, but my experience has taught me that rail tracks are the best for brickyard work. Both of our shovels are about 9 feet gauge; and getting a solid level track is very essential for the proper working of the shovel. We make track by first laying stringers lengthways of the shovel, then cross fills 8 in. by 16 in. every 4 ft. 6 in., centre to centre, with two pieces 4 in. by 6 in. oak bolted on each end, and about 24 in. apart, in which we place a timber or



Steam Shovel Digging Into the Bank of Clay Which Supplies the Raw Material for the Large Plant of the National Brick Co., Ltd., Delson, Que.

sill 12 in. by 18 in. by 9 feet long, and drive wedges between 4x6 in. blocks on 8x16 in. timbers to hold 12x18 in. sills in place. On the top of 12x18 in. timbers we spike on 80-lb. rails 9 feet long, or in other words, each section is 9 feet long. We use the same kind of section on the small shovel, using smaller timbers. This style of sec-

tion takes a lot of timber, but on bad bottoms it saves a great deal of trouble. Economy is effected by the use



Showing Some Detail of Large Steam Shovel and Track Arrangement.

of track of this type, as compared with a track of ordinary construction.

PROPER LEVELING AND COMPACTING ESSENTIAL

The timber used should be tough and hard; the former property prevents splitting, and the latter prevents rails from sinking in the wood, when curving the shovel to get different cuts on the bank. Competent clay bank men contribute greatly to the effective and satisfactory moving and operation of the shovel. One of their most important duties is the proper leveling and compacting of the bottom preparatory to the laying of the track section for the move up. If this work is not done properly, the track will take an irregular bedding, which tends to increase the wear and tear upon the track section, and also produces irregularities in the working function of the shovel. Allowance must be made for the settlement of soft spots in the clay.

Turning movements are commonly effected by a series of forward and backward movements, by which the alignment of the shovel gradually changes to the position required. It is well to give your section considerable curve when changing the alignment of the shovel. The possibility of accidents in turning is not appreciably increased, provided the movement is executed with reasonable judgment and care.



Stripping Clay Right From the Bank With the Aid of Very Little Explosives is the Record of This Shovel.

The mixing of the different stratum of clay in your bank is a very important matter, in the operation of the dipper. Clay varies widely in the different layers, or

stratum, and their proper mixing makes a great difference in the quality of your brick. Here again, a great deal depends upon your shovel men. In all dippers and boom operations, the operator should aim to eliminate excess movements which cause loss of time and energy. The most common sources of losses are failure to properly adjust the elevation and distance locations of the dipper during the operation of swinging in readiness for the delivery to cars or other transporting vehicles; failure to release the dipper door immediately upon reaching position for the delivery of its load; failure to have the dipper in a position from which the thrust and raise movement can immediately be begun; and failure to stop the upward movement of the dipper immediately upon the completion of the filling operations.

The successful operation of the shovel depends upon the energy, skill and brains put into the work by the shovel runner and his craner; the care which they bestow upon the engine and other operating parts is a most important factor. Those men recognizing that a working shovel is the mainspring of their job will be constantly upon the lookout for improperly adjusted gears and bearings, and also for loose nuts and broken bolts. They will "listen for knocks," knowing that a loose bolt will



Smaller Type of Shovel Which Runs Upon Platforms Instead of Tracks. The Author Recommends Tracks for Clay Pit Work.

cause a knock, and that a loose nut left unattended means a stop. If by chance the stop materializes thru ordinary and unavoidable wear and tear, they will endeavor by the exercise of trained intelligence to make such temporary repair as will permit the operation of the shovel until such time as permanent repairs can be made without a complete tie-up of the work. Reckless operation frequently takes the form of a sudden application of a retarding or stopping force, or a too generous thrust of the dipper, with the result that the operating parts of the shovel are subjected to excessive stresses and uncalled for abuse. Naturally, the operating costs will be augmented as the result of breakdowns and repairs. The writer thinks that a steam shovel is one of the most essential machines in a brick factory, even if you only have an output of 20,000 or 25,000 brick per day.

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Active Construction Period Started

With regard to the building situation, S. W. Straus of S. W. Straus & Co., Chicago, says:

"Indications are that by mid-summer we shall witness the actual beginning of a long and active period of construction work in all parts of the country.

"Not only have building operations greatly increased in the last 30 days, but there has been noted a pronounced increase among inquirers for capital to be used in construction lines of all kinds and for industrial expansion. These inquiries are of such a nature and represent so many varied interests as to indicate a strong undertone of national optimism with regard to immediate business prospects and a rapid approach toward general stabilization.

"Reports from the principal business centers of the country show that the resumption of building operations on an extensive scale has begun and there is reason to believe that the present month may be the best June in the history of the country in point of building contracts let, unless labor disturbances or some other unfavorable circumstance prevents.

"The improved conditions in the building industry are based quite largely on the realization by all interests that construction prices, instead of receding, will go higher. It has become generally recognized that labor costs in this country are more likely to advance than to be modified, and this, in the final analysis, is the deciding factor for the reason that about 40 per cent. of the cost of a building is for labor employed in erection work and 35 per cent. is for labor in the manufacture of materials. Labor employed in construction work advanced 28½ per cent. during the period of 1914-1918 while the cost of living went up 65 per cent. and in New York it advanced 73 per cent. It may be assumed, therefore, that construction costs will go higher than present levels with the added pressure of ensuing abnormal demands.

"It must be remembered that the cost of commodities entering into building construction are low at the present time compared with the cost of all other commodities, and, with general prices continually working toward higher levels, it is futile for any building interests to expect more favorable terms at a later date.

"While construction activities are now gaining headway rapidly with every indication of reaching unprecedented proportions as the summer advances, there is no likelihood that anything approaching normal housing conditions will be attained. The situation has been growing steadily worse for two years. There is a building deficit amounting to more than \$1,000,000,000 which includes a million homes. Neither the physical equipment of builders nor the supply of unskilled labor is sufficient to make it possible to reach a condition of normality before the expiration of a number of years. However, present activities will tend to stabilize general conditions and prevent much suffering in the large cities during the coming winter."

* * *

A Revolutionary Method of Selling Brick

Robert C. (alias Bob) Mitchell, is at it again. Yizzir! For the last two months there has been a certain room at the Cuyahoga Builders' Supply Co., Cleveland, Ohio, which has been closed and locked against inquisitive trade paper representatives, and even officers of the Cuyahoga did not know until a few days ago what Bob was up to in said room. The fire escape is good, however, and as the suspense could not be endured by "your correspondent" any longer, it was used to gain a look into aforesaid room.

It was worth going to all that trouble to see. It is not on record that Bob has been to the Orient, but he knows how to fix up an Oriental room—that is what he has created behind the locked door. Rugs, fine from silk, apparently straight from Turkistan; draperies, likewise fine from silk, presumably from Far Fourteenth street; etchings, furniture and so forth, all to fit into

the Oriental scheme.

There was nothing left for Bob to do but let the cat out of the bag. Here's the plan. From time immemorial, it seems, the brick dealer has considered it absolutely necessary to have a large space set aside for the display of brick, the displays lining the walls, and inviting inspection by the customer by having the customer walk around the room.

Bob Mitchell thought this the wrong dope entirely. He figured it out that if a customer could be seated while inspecting brick, the chances of the customer being still more favorably impressed with the brick would be increased. Another thing, during the war the styles of brick by manufacturers has been altered to conform to war time condition, so that by early spring the displays were somewhat out of date. So Mr. Mitchell sold out all the brick as represented in this display at the Cuyahoga, and then began on his new plan. He discovered that a big expense could be cut out if the big display rooms could be done away with, and from this idea he evolved the plan for the Oriental parlor, in which brick sales would be made. By cutting down the space he has saved the company 66 per cent. on rent formerly paid out for the display of brick alone.

He has devised racks for holding brick, instead of having them mortared onto the walls. There will be only four of these racks, but they will contain all the samples of all the stock on hand or available.

"From now on we will have a new era in brick selling," says Mr. Mitchell. "Instead of walking about the room with customers, we will have them come in, be seated in easy chairs, and we will converse in a friendly manner about brick. The selection of the brick, thru the samples in the racks, will be sort of incidental to the transaction. We will have all kinds of interesting data to talk about in connection with brick, but we will show the brick in the ordinary store salesmanship manner of doing business."

A sort of formal opening of the parlor will be held about July 1, when friends of the intrepid Mr. Mitchell will be present to congratulate him on his revolutionary methods.

* * *

British Housing Schemes

An article in the London "Times" of April 21 on the housing needs of Britain's great industrial centers states that Birmingham requires a minimum of 14,000 new houses, and the housing and town planning committee of the city council considers that 5,000 new houses must be built annually for the next 20 years. For erection purposes in the next two years 900 acres have been acquired to build 10 to 12 houses per acre; 80 such houses have already been planned and are expected to be completed by this fall. A public utility society is also reported to have purchased about 34 acres of land, and propose to obtain an advance from the Government of three-fourths of the total cost of acquisition, development of the site, and the building of houses.

Practically every municipality and local council in the "Black Country" has submitted building plans to the Local Government Board. The town of Dudley, which built 300 model dwellings in 1915-16, has submitted schemes for another 500 houses; the Walsall Corporation has received sanction for a big housing scheme, and at Wolverhampton, where 1,500 new dwellings are needed for workers, the building of 674 will be started immediately. At Luton, a hat manufacturing center, the corporation has acquired six sites at a cost of about \$220,000, on which 1,000 houses are to be erected at the rate of 12 to the acre.

LARGE DEMAND FOR BRICK

The London "Times" of April 24 states that many local authorities have applied to the Local Government Board for official approval to start their housing schemes for workers. There are reported to be about 1,800 such local authorities in the country, and up to the present 750 schemes, involving the erection of 128,000 new dwellings, have been submitted. Manufacturers of building materials claim that the Government departments concerned are doing what they can to hasten production of raw materials required for building purposes, but some time is expected to elapse before the production can be considered satisfactory. It is necessary for large brickworks to increase their productive capacity, and for this new machinery is required which will take time to be made. The Local Government Board is said to have given orders for thousands of millions of brick, and to help manufacturers have arranged to pay a large part of the cost when the brick are in stock. The financial assistance thus offered, however, does not satisfy the smaller brickyards, which claim to be so badly equipped that they can not compete with better organized and equipped yards, and many of these smaller brickworks have not as yet been able to reopen their establishments.—*Trade Commissioner H. G. Brock, London.*



Books on Building and Road Construction

In the March-April edition of "Van Nostrand's Record of Scientific Literature" there is mentioned two books which

are of interest to clay products manufacturers. One is "Materials of Construction," of which J. B. Johnson is the author, and contains among other chapters one on structural clay products. This book is listed at \$6.00. The other book is entitled "The Location, Construction and Maintenance of Roads." This volume was written by John M. Goodell and touches on such subjects as brick roads, a brick pavement on a one-inch concrete base, vitrified paving brick production as well as other topics referring to different types of roads and road materials. The price of this volume, which contains 220 pages, is \$1.50.



Clay Production in England

From 1873 to 1915 the output of the United Kingdom of clay, in which are included china clay, potter's clay, fuller's earth, etc., was 352,158,006 tons, with a value of £52,759,989.

In 1913 the production was valued at £1,778,071, and came from the following sources:

	Tons.
England	11,657,339
Wales	718,596
Scotland	1,355,892
Ireland	121,294
Isle of Man	6,700
	13,859,821



The GROUP STIMULUS—WHAT *it* MEANS

NOT MANY OF US stop to think how much the group stimulus means in doing our every-day work cheerfully and well. The man who sticks to business like a clam will soon get to be clammy and clam-like in his temperament and enthusiasm for life and his own particular business opportunity.

Why, I have seen men that you couldn't pry out of their stores or offices with a crowbar! They thought if they ventured to go to a patriotic mass meeting or a Chamber of Commerce gathering, or a state or national convention, that everything would go straight to the bow-wows. Usually those are the men, too, who are continually talking about hard times, the unreliability of help, the tightness of the money market, difficulty in getting good goods before it is too late to sell them, and all that sort of thing.

Bless 'em! They forget that the conditions which confront them are identical with those which every one else has to put up with. Why, you'd think to hear 'em talk that there was a deep-laid and sinister plot on the part of somebody or something to spite them. Nothing of the kind! The trouble is, they are too close to their own problems to get the true perspective of them. What they need is the group stimulus. When I get to be President of the United States (probably not for a year or two anyway), I shall issue a proclamation that every man in business must attend a community meeting of his fellow-men once a week, a gathering of those in the same line of endeavor in the same state with him once a year, and a great national get-together of some kind at least every other year.

And that brings me to the group stimulus of conventions. Why, there is nothing like it! Some day when

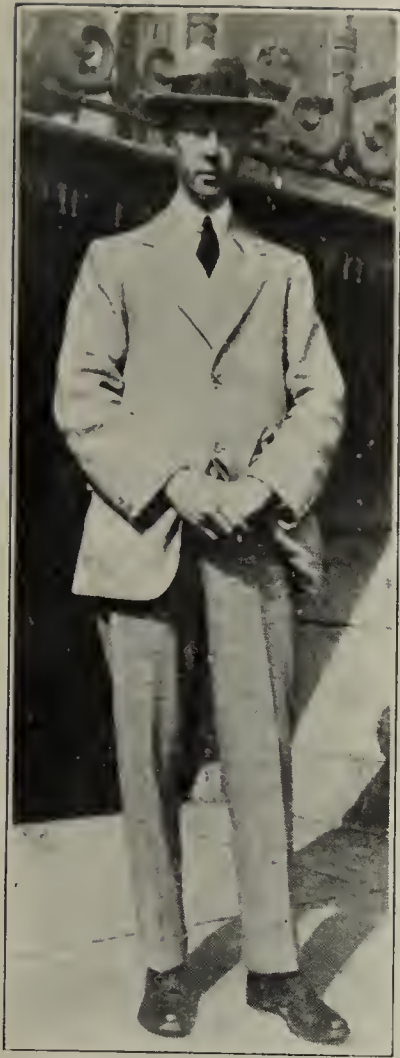
we get to understand the reality of thought-forms and all those occult things, we will know why it is that a great body of people with their minds all fixed on the same thing, move forward together and "carry on" in spite of themselves.

It has taken the enthusiasm of the group stimulus to put the Liberty Loans across; it takes the group stimulus to make a man appreciate the splendid service being rendered by his own line of business and the dignity of his calling; it takes the group stimulus with the moral support of the fellows about you to make us realize that the big things which seem impossible when we are alone, can be carried "over the top" easy enough when we charge the difficulty in one great organized army. No man should begrudge the money he spends going to conventions and big gatherings which will mean the most to him. He will come back charged with the dynamic power, which perhaps he cannot explain, but will feel, and the evidence of which other people will see.

So, Friend Business Man, next time you are tempted to sit on the piazza or sit in your own business confines, just say, "There's nothing to it," and go and chase yourself round the block and watch how much faster your blood circulates, then make up your mind that the other fellow can take on avoirdupois and stolidity, and live in a rut if he wants to, but as for you and your house, you propose to be in the front line trenches where the fighting is going on!—*John F. Gardiner.*



Sauerman Bros., Chicago, Ill., in announcing the death of Capt. B. Sauerman, one of the members of the firm, on May 20, state that the business will be continued without interruption under the same management as formerly.



SYDNEY HIGGINS

AFTERMATH of C. N. C. P. A. MEETING at MONTREAL



GORDON C. KEITH

OWING to the great dispatch with which the report of the Canadian National Clay Products Association convention was written and published, it was necessary to abbreviate it in a number of instances where it was really entitled to more detail. This meeting, which was held at Montreal, on May 26, 27 and 28, was one of unusual sociability and pleasure and too much credit cannot be given to the officials of the association and the Montreal entertainment committee for success of the venture.

Up to the time of the meeting, the membership of the association was largely made up of clayworkers doing business in central Ontario. With this convention gathering at Montreal, the scope of the organization increased so that now it is really national in extent, and a much stronger one than ever before. Some very important questions in regard to legislation, standard size and method of selling of brick are to be taken up and their solution studied in the near future.

FREIGHT RATES TO BE INVESTIGATED

Freight rates in Canada are becoming very serious to the clay industry there. Brick and hollow ware is very expensive in localities where no clay plants are near. On the other hand, competition is becoming more keen where the centers of brick-making are located. Drain tile, for instance, is hardly obtainable in many communities where it is urgently wanted. An

investigation into matters pertaining to freight rates is one of the things to be tackled by the association.

Canadian manufacturers have been much handicapped by the multitude of different sizes of brick that are on the market. An attempt to reach an agreement as to the standard size of brick will soon be made. The method of selling brick is also to come under consideration. A proposition is up before the association to study which would be the best method of selling brick, by the thousand or by weight.

Secretary Keith presented the report of the tile committee at the meeting which embodied the following. The committee was composed of members appointed by the association and the Western Ontario Clay Workers' Association, and its object was to endeavor to find solutions to the various problems confronting the Ontario tile manufacturers in their efforts to supply the demand for their product and also to work out a plan to expedite

the work of under-drainage of all lands within the province that could be benefited thereby. The committee among other things, agreed that it was necessary to secure inspection and standardization of drain tile; tile manufacturers should be licensed; the government should, if necessary, assist the drain tile industry, financially; the Tile Drainage Act should be amended to permit a farmer to borrow a certain



C. N. C. P. A. Delegation About to Board a Vessel Belonging to The Montreal Harbor Commissioners for an Inspection Trip Thru the Magnificent Montreal Harbor.

percentage of the cost of the work done and not a maximum amount as at present, no matter whether he owns twenty-five or two hundred acres; and the government should appoint a committee to control the drainage. These points were elaborated on in the report, it being remarked that all plants in Ontario, about 150 in number, do not turn out more than a reasonable capacity for one or two good sized plants; that the underdrainage of but half of a very small township is being accomplished each year, and that it is imperative that something should be done to speed up the work of underdrainage within the province.

It would be a great omission if we did not mention the important work done by Gordon C. Keith, of Toronto, in serving as secretary of this organization. Mr. Keith has given much of his time and effort to build up the Canadian National Clay Products Association and much of the credit of the success of this body is due him for his close attention to association matters.

VISITORS FROM ENGLAND

Besides Conrad Dressler, inventor of the continuous tunnel kiln which bears his name, who had just arrived from England, there was present a brick manufacturer from Manchester, England. Sydney Higgins, of Wm. Higgins & Sons, has come to Canada and the United States to investigate American systems of making clay products for the purpose of learning cheaper and faster methods in manufacturing operations. The high cost of fuel together with the difficulty in getting the right kind of labor has made it necessary to search for fuel, labor and time saving equipment. From what Mr. Higgins has said it is quite likely that hollow tile will be made on a larger scale in England than ever before.

The two side trips taken by the convention were exceedingly pleasant ones. The luncheon tendered the guests at the Lookout on Mount Royal, from which point a splendid view of the city of Montreal, the St. Lawrence River and the hills in the distance could be had, was a feature. The boat ride on the St. Lawrence and the description of the many extraordinary sights along the harbor by M. P. Fennell, were events long to be remembered by those who were fortunate enough to accompany the delegation.



Large New Refractories Concern Organized

A very big change in refractories circles in the state of Pennsylvania is reported. The organization of a company under the name of the Eastern Refractories Co., to take over several large fire and silica brick factories has just been concluded.

The new concern will take over the Snow Shoe (Pa.) Fire Brick Co., the Centre Brick & Clay Co., and the Superior Silica Brick Co., of Bellefonte, Pa. It also will handle the sales for the Hayes Run Fire Brick Co., in the Pittsburgh and Cleveland district. The headquarters of the new firm are in Bellefonte, Pa.

Officers of the new concern include: President, Ellis L. Orvis; vice-president and chairman of the board of directors, James F. Scott; secretary, I. L. Harvey; general manager, J. E. Harvey, and assistant secretary-treasurer, Jay E. LaBarre. A. M. Sloteman, of Lock Haven, holds the office of assistant general manager and J. E. Morgan is sales manager, with offices at 438 Commercial Trust Building, Philadelphia. Assistant sales managers are: W. H. Kelley and J. W. Dowling, 1214 Bessemer Building, Pittsburgh.

J. E. Morgan was with the Harbison-Walker Refractories Co. for about sixteen years and was their eastern

sales manager for about eight years. W. H. Kelley was formerly in charge of fire brick at the Bethlehem Steel Co., but for the last eight years was in the sales department of the Harbison-Walker Refractories Co. J. W. Dowling has also been connected with the sales department of the Harbison-Walker Refractories Co. for a lengthy period.

With large plants at Snow Shoe, Port Matilda and Orviston, Pa., this new organization becomes one of the largest firms in the refractories field.



Wyoming Plant Reports Good Business

Carl F. Kneisel, secretary-treasurer of the Sheridan (Wyo.) Press Brick & Tile Co. reports business flourishing in that territory. The company is planning to build several 28 ft. round down-draft kilns in order to take care of all the available business.

Thru extensive local newspaper advertising they are trying to educate the public to the advantage in the use of hollow building tile, and Mr. Kneisel states that the lumber dealers seem to take more kindly to these wares than the carpenters and contractors do. Some of the dealers are using them for foundations instead of concrete. Most all of the company's business for the past two months has been car lot shipments to small towns within 100 miles radius, local business being at its lowest, however, prospects are very promising for the future, Mr. Kneisel reports.

The Sheridan Banking Co. expects to erect a five-story modern building at a cost of not less than \$250,000; the local school district is contemplating the erection of a \$100,000 building and the Methodist church a building of about the same amount. There is talk also of apartment buildings to be erected this fall.

The Sheridan Press Brick & Tile Co. are doing a nice drain tile business now that the farmers are beginning to see the advantage of clay drain tile.

Three of the former employes of this company who had been "over the top" three or four times, are now back at the old jobs, "without a scratch having been left on them thru the experience," writes Mr. Kneisel.



Government Issues Silica Refractories Book

Technologic Paper number 116, published by the Bureau of Standards Department of Commerce, which is entitled "Silica Refractories" is now ready for distribution. It is an eighty-four page pamphlet on factors affecting the quality of silica refractories and methods of testing the raw materials and finished ware. The booklet may be obtained by sending twenty cents to the Superintendent of Documents, Government Printing Office, Washington, D. C.



A Book on Interstate Commerce

Our attention has been called to a book which has just recently come off the press and one which many clay manufacturers would undoubtedly find of great interest to them. It is entitled "Clark on Interstate Commerce" and contains the testimony of Hon. Edgar H. Clark, a member of the Interstate Commerce Commission, before the senate committee on interstate commerce. It also contains the Pomerene-Esch Bill. The book is for sale at \$3.00 a copy by John Byrne & Co., Washington, D. C.

DRILLING BORE HOLES *for* BLASTING CLAY

A Description of the Various Methods Including the Machinery and Tools Used in Drilling Holes for Blasting Clay

BORE HOLES to receive the explosives for blasting shale, fire clay, and clay banks or mines can be made in several different ways. First, by hand; second, by augers turned by hand power, with or without a mechanical feeding appliance; third, rotary power-drills; fourth, percussion power-drills; fifth, well drills. For each separate plant there is one choice which will prove more adaptable and economical than any of the other methods but since the height of the bank, depth and diameter of the holes, hardness of the clay, cleavage, wetness of strata, the necessity or advantage of speed in drilling, and other conditions vary so much with different plants there is no one universal system of digging bore holes which has been found that would out-shadow all of the rest. We believe that we can best serve our readers by describing some of the ways in which bore holes are made in clay and then with their own conditions in mind they can determine for themselves which of the methods described would be best to use on their particular plants.

The old hand drill will always be of service for small jobs where it is difficult to supply air or steam. This type of drill is adapted to small holes and to depths not to exceed fifteen feet. The tools required for this work are: a five or six-pound sledge hammer, usually three drills or "spuds", varying in length from three or four feet in the shortest, up to ten or twelve feet in the longest. It is necessary to have these lengths to suit the convenience of the men as the hole deepens. The drills are of tool-steel $\frac{7}{8}$ to $1\frac{1}{4}$ inches in diameter, frequently drawn out at the lower end into a fan-shaped bit or cutting point. A bucket of water, a dipper, a brush or "swab" and a scraper for cleaning out are also needed. The drillers usually provide their own swab by cutting a young sapling (preferably of hickory) an inch or so in diameter and about ten feet long. Then by pounding or mashing the thick end of it with the sledge, they fray it out for a length of six or eight inches.

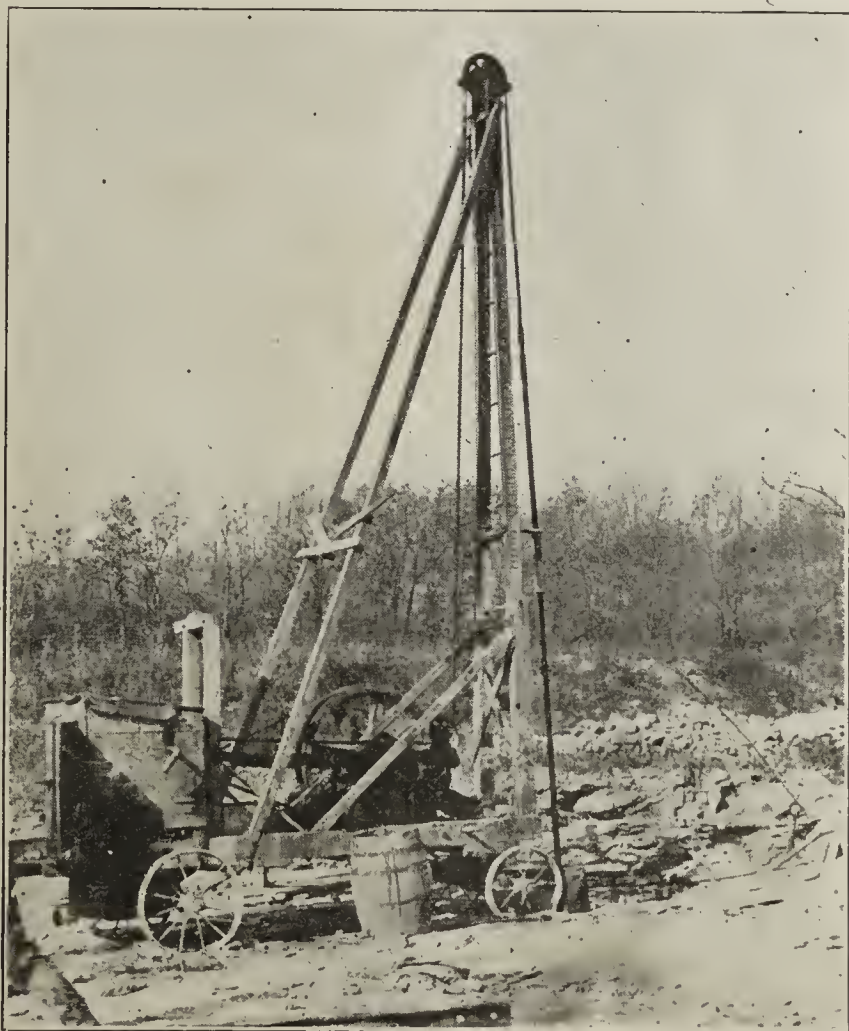
CHURN-DRILLING WITH HAND DRILL

The actual process of drilling a hole for a blast is a process similiar in nature in all materials, but varying greatly in difficulty or the amount of energy required. In the softest clays which need the use of explosives, the drill can be driven into the clay by merely lifting and dropping it, or "churn-drilling." In fact most shale clays can be churn-drilled.

When the shale is quite hard, the drill requires the use of more power. In drilling a vertical hole, one man takes the sledge, the other the shortest drill, which he holds plumb at the point selected for boring. The man with the sledge, called the striker, proceeds to strike the drill with quick sharp blows, while at the same time the driller between each blow of the sledge raises the drill a short distance and dur-

ing the same interval twists the drill thru an angle of from 30 to 40 degrees. Each four or six blows therefore cut the bottom of the hole over its entire area, creating numerous small chips of the loosened rock.

The above procedure is continued until several inches to a foot or so of shale have been drilled thru. A dipper of water is now poured down the hole and the brush end of the swab is inserted, and after a short churning up and down is withdrawn laden with the newly made mud. On withdrawing, the swab is given a sharp blow or rap over a block of wood or a stone, thus freeing it of the accumulations; possibly a little more water is added, and the work proceeds, until the desired depth is reached, usually not exceeding ten or twelve feet. The hole is now dried and cleaned out as carefully as possible, by pouring down a handful or so of dry clay at a time and withdrawing it in the spoon or scrapper. In wet clays, or shales permeated with water-



A Well Driller Such as is Employed for the Purpose of Drilling Holes in Clay Banks is Shown in the Above View.

bearing seams, this drying of the hole is very difficult to do, and recourse is had to a cartridge of oiled or soaped paper, which will slip down the hole quickly and permit a shot to be gotten before the water soaks thru the paper.

AUGER DRILL USED MOSTLY IN MINES

The auger drill is applicable to clays and shales of all degrees of hardness. It is limited to rocks of about that grade, such as coal, gypsum, talc and soft limestones, and is inapplicable to really hard rocks like sandstones, granites, etc.

The simplest form of this drill is a double brace, or handle devised for twisting the auger around an imaginary center, using both arms to maintain the motion and the chest to supply the pressure of the drill against the rock. This is applicable to soft clays and only the softest shales.

The common forms are frames, arranged to fasten upright or inclined between the floor of the quarry or mine and some point above it, in the face of the rock, or the roof of the mine. This frame is braced in position by screws and guys. The auger is mounted on the end of a long screw or threaded steel bar, which is passed thru a nut fastened in the frame mentioned above. By turning the screw, it feeds itself thru the nut at the rate prescribed by the pitch of its threads, usually one-eighth of an inch per revolution. The turning is done directly by a crank or handle on the end of the screw, or by the intervention of gears, with two or three different rates of motion, if the rock to be drilled is fairly hard. The power is supplied by the driller himself.

These drills are of good service in mines, where the roof and floor offer facilities for fixing them in position readily. They will make holes at almost any angle, but most easily when nearly horizontal. They are used, but not so handily, along the foot of a shale bank, in an inclined position, and for making horizontal holes or holes inclining downward. They are not successful for making vertical holes in open workings. A man will make a six foot hole, $1\frac{3}{4}$ inches or 2 inches in diameter, in ordinary shale in from twenty to thirty minutes, and often much quicker.

One plant uses both of the above types of drills at their pit. They report that they have successfully brought down a thirty foot bank by drilling 12 to 15 foot holes with a hand drill at the top of the bank, and 15 to 18 foot horizontal holes at the bottom with a thread bar auger drill and firing electrically both top and bottom holes at the same time.

POWER DRILLS USED ONLY BY LARGE PLANTS

It is only the larger plants that use rotary power drills and percussion power drills. It is said that a compressed air hammer rotating drill will bore small holes in a dry bank faster than any other drill. Where conditions were good, four foot holes have been drilled in less than four minutes. Part of the exhaust from these little machines can be turned down thru the hollow drill to blow the cuttings from the hole. Ordinarily $1\frac{1}{2}$ inch holes and 6 foot depths are the limits of the smaller size hammer rotating drills. For best results, these drills require about 50 feet of free air per minute, under a pressure of 80 to 100 pounds. Rotating hammer drills are especially valuable where there are many large pieces to be broken.

Steam or air tripod drills are adapted to vertical or horizontal holes up to four inches in diameter. Depths greater than twenty feet can be reached, but the long steels required for deep holes are difficult to handle. Under good conditions, this type of drill will make 60 to 90 feet of vertical hole and 20 to 50 feet of horizontal hole per day.

The secret of fast drilling in shale is to dress the drills to the shape of a blunt chisel about one-quarter inch wide, instead of drawing them out to a sharp cutting edge. The blows from the blunt chisel drill will reduce the size of the cuttings so they may be washed out of the hole, as fast as the drill progresses, by a jet of water from a small

pipe fed down to the bottom of the hole. For rough ground, which will not permit the use of a well drill, or ledge blasting the tripod drill may be found very satisfactory.

WELL DRILL USED WITH GOOD SUCCESS

What is commonly called a well drill hole is one driven thru clay or shale to any depth desired, and usually 5 to 6 inches in diameter. Well drill holes for blasting are not often less than thirty feet nor more than about 150 feet in depth, altho some plants have found that it pays to use a well drill for holes as shallow as eight feet, if the ground be level enough to move from hole to hole without much difficulty. The machine which is used for drilling was originally designed for oil-well and water-well drilling. And machines for these purposes can sink a hole a depth exceeding 2,000 feet.

The well driller is a self-contained machine, usually with its own steam or gasoline engine on wheels, sometimes able to move from place to place by its own power. The drilling is accomplished by lifting a metal cutting bit of considerable weight, and dropping it on the rock, the engine or motor being of such size as to cause fifty or sixty blows per minute. This is quite different from the ordinary air or steam tripod drill, where a comparatively light bit is driven by steam or air pressure against rock. With the tripod drill, the depth of the hole is limited by the length of the bit and it is not economical to have them longer than 25 or 30 feet in length. With the well drill machine, the bit is suspended by a rope or cable so that the drilling bit is the same size for any depth hole desired, the deeper the holes the more rope being paid out from the machine.

NOT MUCH POWER REQUIRED

Some of the advantages in using this machine are: A well drill hole can be put down the entire depth of the quarry face; it can be made of such a size as to contain very large charges of explosive without springing. The well drill machine can run when operated by steam or gasoline after the main power plant and air pressure are shut down for the winter. On account of the larger diameter of well-drill holes, it is possible to place them farther apart and farther back from the face than would be possible with the tripod drill, and to bring down a very much larger quantity of shale. On the other hand, the tripod drill is much easier moved from place to place, can be easily put up on irregular places, and can drill a hole in any direction—up, down, straight in, or slanting downwards, whereas the well-drill machine is limited to one position only, which is straight down.

The average capacity of a well drill in shale is about 70 to 90 feet per day in good drilling. At one plant a well driller operated by a seven horsepower gasoline engine is situated on the top of the shale bank. Holes are drilled about forty-five feet deep every sixteen feet apart and about eight feet from the face of the bank. Two men can drill two holes in an eight-hour day. The amount of gasoline consumed by the engine is only five gallons a day.

During the past few years there has been a tendency toward large diameter blast holes. It is generally believed that the explosive action is more complete and instantaneous in large diameter holes. The amount of explosive per lineal foot of hole is greatly increased in larger holes. It varies as the square of the diameter of the hole.



The Cumnock Brick Co., of Sanford, N. C., has been incorporated with a capital stock of \$100,000.

Every Disabled Soldier and Sailor Should Know

That the Government is resolved to do its best to restore him to health, strength, and self-supporting activity.

That until his discharge from hospital care the medical and surgical treatment necessary to restore him to health and strength is under the jurisdiction of the military or naval authorities.

That the vocational training which may be afterwards necessary to restore his self-supporting activity is under the jurisdiction of the Federal Board for Vocational Education.

That if he needs an artificial limb or other orthopedic or mechanical appliance the Bureau of War Risk Insurance supplies it free upon his discharge and renews it when considered necessary.

That if, after his discharge, he again needs medical treatment on account of his disability the Bureau of War Risk Insurance supplies it free.

That any man whose disability entitles him to compensation under the War Risk Insurance Act may be provided by the Federal Board with a course of vocational training for a new occupation.

That the Government strongly recommends each man who needs it to undertake vocational training and put himself under the care of the Federal Board, but the decision to do so is optional with each man.

That if his disability does prevent him from returning to employment without training and he elects to follow a course of vocational training provided by the Federal Board, the course will be furnished free of cost, and he will also be paid as long as the training lasts a monthly compensation equal to the sum to which he is entitled under the War Risk Insurance Act or a sum equal to the pay of his last month of active service, whichever is the greater, but in no case will a single man or a man required by his course of instruction to live apart from his dependents receive less than \$65 per month, exclusive of the sum paid dependents; nor will a man living with his dependents receive less than \$75 per month, inclusive of sum paid to dependents.

That if his disability does not prevent him from returning to employment without training and he elects to follow a course of vocational training provided by the Federal Board, the course will be furnished free of cost to him, and the compensation provided by the War Risk Insurance Act will be paid to him, but no allowance will be paid to his family.

That in addition to the above the family or dependents of each disabled man will receive from the Government during his period of training the same monthly allotment and allowance as that paid prior to his discharge from the army or the navy.

That upon completion of his course of training he will continue to receive the compensation prescribed by the War Risk Insurance Act so long as his disability continues.

That in nearly every case, by following the advice and suggestions of the Federal Board, he can either get rid of the handicap caused by his disability or acquire new powers to replace any that may have been lost.

That if he is willing to learn and to take advantage of the opportunities to increase his skill offered him by the Federal Board he can usually get a better position than he had before entering the service.

That if he fails to take advantage of these opportunities he will find himself badly handicapped when he is obliged to compete with the able-bodied men who come back to work after the war.

That the Federal Board, thru its vocational experts, will study his particular disability and advise him as to the proper course to pursue and give him free training for the occupation best suited to him.

That on the satisfactory completion of his training the Federal Board, thru its employment service, will assist him to secure a position.

That public authorities and other large employers will in many cases, at least, give the disabled soldiers and sailors preference when filling vacant positions, provided they possess the training necessary to fill them.

All disabled soldiers, whether in or out of the hospital, should address their communications either to the Federal Board for Vocational Education, Washington, D. C., or to the district office of the Federal Board of the district in which he is located. The district offices of the board are located at the following points respectively:

District No. 1: Maine, New Hampshire, Vermont, Massachusetts, and Rhode Island. Office: Room 433 Tremont Building, Boston, Mass.

District No. 2: Connecticut, New York and New Jersey. Office: Room 711, 280 Broadway, New York.

District No. 3: Pennsylvania and Delaware. Office: 1000 Penn Square Building, Philadelphia, Pa.

District No. 4: District of Columbia, Maryland, Virginia and West Virginia. Office: 606 F Street N. W., Washington, D. C.

District No. 5: North Carolina, South Carolina, Georgia, Florida and Tennessee. Office: Room 1404 Candler Building, Atlanta, Ga.

District No. 6: Alabama, Mississippi and Louisiana. Office: 822 Maison Blanche Annex, New Orleans, La.

District No. 7: Ohio, Indiana and Kentucky. Office: 906 Mercantile Library Building, Cincinnati, Ohio.

District No. 8: Michigan, Illinois and Wisconsin. Office: 1600 Westminister Building, 110 South Dearborn Street, Chicago, Ill.

District No. 9: Iowa, Nebraska, Kansas and Missouri. Office: 517 Chemical Building, St. Louis, Mo.

District No. 10: Minnesota, North Dakota and South Dakota. Office: Room 742 Metropolitan Bank Building, Minneapolis, Minn.

District No. 11: Wyoming, Colorado, New Mexico and Utah. Office: 909 Seventeenth Street, Denver, Colo.

District No. 12: California, Nevada and Arizona. Office: 997 Monadnock Building, San Francisco, Cal.

District No. 13: Montana, Idaho, Oregon and Washington. Office: Room 539 Central Building, Seattle, Wash.

District No. 14: Arkansas, Oklahoma and Texas. Office: 810 Western Indemnity Building, 1000 Main Street, Dallas, Texas.

✻ ✻ ✻

Can You Locate This Party for Us?

A correspondent desires very much to get in touch with Andrew Sproul, a builder of kilns and dryers, who resides somewhere in Pennsylvania it is thought. *Brick and Clay Record* will be glad to have Andrew Sproul, or anyone who knows his address, communicate with it.

✻ ✻ ✻

The public works department of Portland, Me., is planning three big paving jobs, costing \$60,000 and three sewer jobs requiring an estimated outlay of \$70,000, for completion during the next few months. Bids for some of the materials and for portions of the work already have been asked.

LOOK HERE!



And convince yourself as to whether building supply dealers sell clay products. Read Mr. Ladd's letter and be sure to run your eye down the material list on the side of his letter.

Isn't that Convincing?

You Clay Products manufacturers have been too prone to disregard this big outlet for the sale of your wares. You have looked upon the building supply dealer as one who sells cement, sand, gravel, lime, plaster and similar building staples. He does, but—he sells clay products too—face brick, common brick, sewer brick, fire brick, fire clay, sewer pipe, drain tile, hollow building tile, etc.

HERE IS YOUR MARKET—AMONGST BUILDING SUPPLY DEALERS—A BIG PROFITABLE MARKET TOO.

Write us for information we have gathered regarding the sale of clay products in this field. We'll also send you a recent issue.

Look over this list of products this dealer company sells. You'll see a good many clay products Some of which you manufacture.

BUILDING SUPPLY NEWS

610 Federal Street CHICAGO

The only publication in America whose circulation is exclusively amongst building supply dealers.

June 17, 1919

BRICK AND CLAY RECORD

1085

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G. H. HAGADORN VICE-PRES.

M. A. BROCKHURST SEC.-TREAS.

Albany Builders Supply Co.

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TRUSSIT
STEEL LATH
CORNER BEAD
WALL TIES

PORTLAND CEMENTS

KNICKERBOCKER
MEDUSA WHITE
LEHIGH

LIME

PITTSFIELD COMMON
FOLLETT COMMON
PITTSFIELD FINISHING
FOLLETT FINISHING

HYDRATED LIME

STANDARD COMMON
ANCHOR COMMON
STANDARD FINISHING
ANCHOR FINISHING

PLASTERS

IVORY WOOD FIBRE
IVORY FIBERED CEMENT
IVORY SANDED
EMPIRE WOOD FIBRE
EMPIRE FIBERED CEMENT
EMPIRE SANDED
ADAMANT SANDED

PLASTER PARIS

SACKETT PLASTER BOARD
CORNELL WALL BOARD
FIRE PLACE DAMPERS
ASH DUMPS
CLEAN-OUT DOORS
MORTAR COLORS
FRONT BRICK
FIRE BRICK
FIRE CLAY
SEWER PIPE
FLUE LINING
KEENES CEMENT
WALL COPING
LALLY COLUMNS
HOLLOW COLUMNS
DRAIN TILE
TERRA COTTA BLOCKS
GYPSUM BLOCKS
EXPANSION JOINT
COAL CHUTES
SALAMANDERS
WHITE SAND
PLASTERING HAIR
ROOFING
PORCH POSTS
CHIMNEY TOPS
CLINTON WELDED SHEATHING

ALBANY, N. Y.

March 20, 1919

Building Supply News,

Chicago, Ill.

Gentlemen:

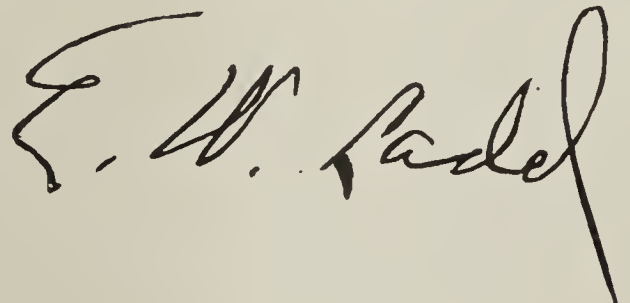
We have certainly found your paper well worth the price, as it seems to be a building supply man's paper through and through, and gives us information covering a large territory that it would be very hard for us to get in any other way, and we believe that every wide awake building supply man should have it.

Wishing you success, and assuring you that we shall be glad to give you any information for your paper at any time that you think will be of interest to your readers, we remain

Yours very truly,

ALBANY BUILDERS SUPPLY CO.

EWL/MRG



HIGHWAY TRANSPORTATION'S PART *in a* CITY'S DEVELOPMENT

At a Special Meeting of the Cleveland Real Estate Board, Will P. Blair Outlines the Importance of Upbuilding the Outlying Districts of a Community in the Development of a City

WHILE EVERY INTEREST closely or remotely identified with the building industry in Cleveland, Ohio, is preparing at the moment to unite its resources, its people and its ability toward the common good of creating and promoting a real home building campaign in that city, there is a phase that, until revealed by Will P. Blair, vice-president of the National Paving Brick Manufacturers' Association, has been given less thought than it deserves. That is the question of highway transportation.

Many leaders in the proposed home building campaign in Cleveland, notably real estate interests who seek to promote the work thru the upbuilding of outlying districts of the community, have realized this however. At a special meeting of the Cleveland Real Estate Board, therefore, Mr. Blair was called upon to outline the importance of this angle in the development of this or any other city. The meeting was held at Hotel Winton, and is said to be the largest meeting of its kind in recent years.

While primarily interested in the development and improvement of brick highways, as he has been almost all his lifetime, Mr. Blair in his address before the real estate did not dwell particularly upon that point, but urged for cooperation that more highways be built and that they be built right.

WELL PAVED HIGHWAYS KEY TO GOOD BUSINESS

During the last year Mr. Blair has been conducting a series of tests that prove the need for more and better highways, and in every one of these tests it has been shown that the well paved highway is the key to successful business, and the unimproved road is the factor that makes for failure in business. Several of these investigations have been told of in *Brick and Clay Record*, notably the "apple story," in which the officials of the National Paving Brick Manufacturers Association learned of the success of apple growers on paved highways, and the almost total loss to others who did not have means of ready access to the market places from their farms. This investigation was related, with keen interest manifested by the real estate, as were the equally inspiring "bean story," "successful farming," the famous "Akron route" and others. In his talk Mr. Blair, with expert knowledge, included data showing the possibilities of marketing Ohio products by transportation with automobiles, the relative cost of transportation, and construction and regulation of roads. Details of his talk to the real estate board members follow:

"The City of Cleveland does not contain within itself one single thing upon which it must depend for its existence. A fish in the lake struggling near the shore, the clay in some of its hills, are the nearest possible assets; but as to these the hook must come from the far north and the fuel from near the Ohio River before these scant elements of civilization can be realized upon.

"The very existence of a city depends entirely upon what she brings in and upon what she sends out and *how much*.

"But the prosperity of a city depends upon the economy of this exchange—her greatness is measured by the volume of her tonnage. Tonnage increase does not come of itself, by its own initiative. It must be provided for by a wise vision which will anticipate an efficiency adequate for its accommodation.

"There was a time when in the earlier settlement of and location of our cities, utmost security was felt, if happily that city found itself a location and name by a lake or navigable river.

"Such a condition was good collateral for all the promise there was in it—if only some one had not disturbed the condition. Many cities with bright hopes but without vision, resting upon transportation facilities afforded by the Ohio, Mississippi, the Wabash, Illinois and Missouri rivers and some even upon our northern lakes have less population today than seventy-five years ago.

"The oncoming of the steam railway sounded no alarm, much less did it visualize a course so easy of discernment, that with but one eye open, would have been seen the way leading thru which escape could be made from commercial decay or death.

"These towns are on the market today at junk prices.

"Even after the great railway development was at its height, some towns self satisfied as to their own importance and strength, refused to encourage much less bid a price for the new means of transportation, for which other towns found the price, secured the prize and have grown fat upon the investment, while the town of neglected opportunity is but existing today in a paralyzed state.

"I am aware that this is but a brief look back of what you already know to be true. But if the old, old stories of religion and love were not repeated often, our morals would collapse and courts would soon be full of divorce cases. At least what I have said is perfectly clear to you because you have seen it with your own eyes.

"But I am not so certain that the entire public or even the keen eye of the real estate man sees conditions with which we are completely enshrouded. It has been slipping in, upon, over and about us so quietly and with such stealth and so close that I fear we are blinded. We at least must realize that a mist is about us. We ought therefore to take counsel with one another if purchase conditions may be bettered.

"It is not a condition due to war of which I am about to speak. You say the railroads fell down—they did not—we overloaded them. True some confusion prevailed. There was a management who seemed to think that it was economy and efficiency to stand and hold a bucket of coal until John Johnson would put in an appearance any old time for it, rather than let Smith have it at once so he,

Smith might not freeze and in the meantime secure another bucket in ample time for Johnson. That is a war condition involving only human element of which we had plenty and then some, and does not embrace a great national problem that we are immediately up against.

AN INCREASED TONNAGE REQUIRED

"It is but within the last few years that twenty-five per cent. of our total population which lived in the country now lives in the city; that twenty-five per cent. eats just as much or almost as much now as when he lived in the country. He consumes as we all do, thirty-three per cent. more of household, domestic and personal conveniences than a few years ago, and this increased tonnage must be brought into him and us.

"Due entirely to this transformation and rearrangement of our domestic relationship, our average production for domestic consumption has increased thirty-three per cent. and which must be transported from where it is produced to where it is consumed. Nor does this take into account the natural increase due to increased population.

"In the meantime our railroads have increased but ten per cent. in mileage and greatly decreased in efficiency yet adding to their equipment.

"The business of a city is wholly dependent upon its transportation facilities. There is going to be a 'complete tryout' of the survival of the fittest. If any of you are laboring under the delusion that the relief and added facilities will be forwarded by the railroads, pertness is excusable in giving advice over such a futile dream. *Forget it.*

A NEW EPOCH IN TRANSPORTATION

"A new epoch is upon us in transportation. We have not used the highway to any considerable amount. But we have abused it outrageously. In fact when the war broke out no road was known to exist over which could be moved a train of the *new order* from our central west to the sea coast.

"A hundred experts, civil and military, sought it for more than six weeks. A northern route was thought to exist thru the State of New York. But the bridges were found utterly insufficient to bear the load. An angling route thru Ohio was finally chosen, intersected with mud and danger, causing wrecks, loss of life and limb, equalling that of the great pathfinder, Fremont, when seeking a way across the mountains westward to the Pacific Coast.

"That is the condition of the country today in spite of the fact that daily and hourly evidences are at hand urging upon us an advantage which if not exercised will be taken over and apportioned to other cities more wise than ourselves.

"There are many phases of highway development which the citizen and taxpayer, regardless of his business, should be informed upon. Aside from adequate construction, which will respond in the most economic way to the money expended are rules and regulations for the use of the road which must be so reasonable that they will not defeat the purpose for which the roads are built. More good trucks have been ruined by bad roads, than good trucks have ruined good roads.

"If Cleveland is to continue to grow, if Cleveland real estate men are to have customers, two where they now have one, this new avenue of transportation must be realized upon by tracks as safe for the truck movement every day in the year, and reaching to as far distant points, as the railway track which bears its car with safety and from points afar."

Cleveland Construction Figures Show Gain

Efforts of brick, tile and allied interests in Cleveland, Ohio, will be bended toward aiding in completing the canvass of the city's finances in order that the proposed home building movement may go ahead. Latest figures show that the city will need \$75,000,000 to finance home building projects which are expected to offset the shortage of 15,000 houses. According to Carl R. Brown, the City Savings and Loan Association, the savings and loan companies have at their disposal \$25,000,000 for this purpose, and the balance must come from banks, industrial plants and private individuals.

Transportation interests in Cleveland are preparing to do their bit by opening up new car lines. Four new street car lines will be opened soon by the Cleveland Railway Co. They will be extended to districts not served at present, and will be a factor in housing construction, because with transportation, workers will be able to live farther away from their employment. These four new lines will serve now sparsely built up sections in the easterly and southern parts of the city.

The Cleveland City Council has favored the movement for a city-sanctioned "Own Your Own Home" campaign, and as soon as the plan is approved by that body it will go ahead, according to Mayor Harry L. Davis.

The construction in the Cleveland district for the first five months of 1919 shows a gain over the same period in 1918, but this is by no means sufficient to meet the larger increase in population during the year. Building figures for 1916, the banner year in Cleveland are \$11,500,000, while in 1917 the cost dropped to \$8,000,000 and in 1918 to \$4,000,000. So far this year the cost is close to \$4,000,000 but the need for housing and other forms of construction is much greater.

The most significant improvement is that so far in June, contracts have been let for eleven brick apartment houses, totaling \$301,000, against four such buildings, totaling \$72,000 in all of May. Other brick construction is in proportion, according to leading dealers here.

However, no matter how progressive Cleveland was in the last few weeks, Akron, a city of perhaps 50,000 by now, is still leading the way in solving the housing problem. Indirectly, the reported shortage in tires and other rubber goods is traced to the housing shortage in Akron up to the present, for it is alleged that many workers, despite good wages and steady employment are leaving Akron because they cannot find places to live.

Since early May, however, this condition is being changed, by the Akron Home Owners Investment Co., a \$5,000,000 corporation formed by 75 leading business men, the object of which will be to provide funds that housing may be built. The money, to be obtained by stock subscription, will be used to build houses, rentable to workers at modest sums, with the provision that workers may purchase these homes with down payments of a few hundred dollars, the balance to be loaned by the investment company. Six per cent. will be the limit charges for these loans. Officers of the company are: President, H. S. Firestone, the Firestone Tire & Rubber Co.; vice-president, F. A. Seiberling, the Goodyear Tire & Rubber Co., treasurer, L. D. Brown, the B. F. Goodrich Co.

* * *

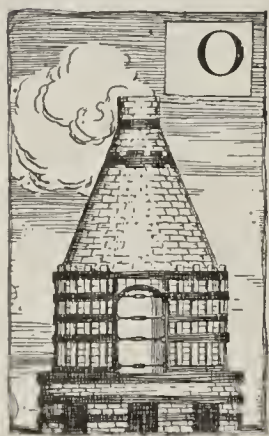
J. A. Brookshire, Lamar, Colo., was awarded the contract for furnishing the tile for the new high school buildings, the contract calling for nine car loads of tile.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

A PIONEER FLINT AND SPAR MILL



OF THOSE NEEDED auxiliaries of pottery and other fine ceramic manufacture, flint, quartz, spar and allied materials, but brief information is available—speaking particularly with reference to the plants, commonly known as flint and spar mills, operating for the production of such commodities. Technical data covering the raw materials, source of supply, utility for different purposes and the like is readily obtainable, but before these products are ready for service in the manufacture of wares, they must be ground, screened and otherwise commercialized—and this means the production of the flint and spar works.

The lack of information on plants of this character is due, apparently, to two main reasons: First, the comparatively few mills of this nature, scattered here and there in different sections of the country; and second, the secretive and reserved manner in which operations are conducted. The industry as a whole is small in size, yet large in importance, for its consequence as an essential factor in fine ceramic production can hardly be overestimated.

Flint and spar mills seem to engage thru natural momentum of demand rather than by any direct or indirect solicitation or promotion. When the potter or fine ceramic worker finds a plant that furnishes the desired materials, he "sticks," and no amount of encouragement or sales ability for the production of another mill is likely to make him change. His ware is being made with familiar fluxes, his employes understand exactly how to handle the specified materials as derived from such source of supply and production is satisfactory—so why make any change?

Thus established plants of this nature enjoy a clientele of quite lasting qualities and known demands, with increase in business, as it may come, "by word of mouth" or thru actual demonstration of what some similar ceramic plant is doing with the materials. The right materials are wanted for the right purpose, with absolute reliability at all times. And so the older flint and spar mills have an advantage in regular trade, to be measured in direct proportion to the service they have rendered their customers in all phases of production in the years gone by.

The pioneer leads—and this is as true in the flint and spar business as in other branches of industry. The early flint and spar mill has a prestige and influence accrued with the advance of years, an established trade of definite proportions for definite commodities, with production and service facilities of defined and enlarged character brought about by the natural growth of demand.

A PIONEER ORGANIZATION

Among the pioneers in the flint and spar industry is Moses Golding, who founded a business of this nature at Trenton, N. J., in 1865, now operated under the name of the Golding Sons Co. This company specializes in the production of supplies for manufacturers of pottery, tile, porcelain and sanitary wares, and handles quantities of imported and domestic clays for potters' convenience. In addition to the Trenton works, plants are maintained at East Liverpool, Ohio, Wilmington, Del., Hockessin, Del., and Butler, Ga., embracing establishments both for the production of raw materials and the manufacture of finished products. The company is said to be the largest dealer in flint, spar and kindred products in the country.

The production at the Trenton works is devoted primarily to ground flint and spar, aggregating about 25,000 tons per year. The output of the East Liverpool, Ohio, and Wilmington, Del., plants comprises ground spar, with average production totaling 16,000 tons and 21,000 tons annually, respectively. This makes a complete output of approximately 61,000 tons of material in twelve months at the various establishments.

TRENTON PLANT LOCATED ON ISLAND

The company's plant, South Warren Street, Trenton,



Fig. 1. A General View of Part of the Plant at Trenton, N. J.

N. J., is located practically on an island, the site being bounded by the Delaware River, Assunpink Creek, Sanhican Creek and the Trenton water power canal. This provides excellent water facilities for power, shipping and

other purposes, and compensates, to a degree, for the lack of railroad lines in the immediate vicinity. The company is a large user of waterpower, and has arranged a concrete flume connection between its plant and the local waterway.



Fig. 2. A Historic Building Which Dates Back to 1700 and Which is Now in Use by the Golding Sons Co.

A general view of a portion of the plant is shown in Fig. 1; the mill building illustrated, also reproduced in Fig. 2 is an historic landmark. The erection of this structure can be traced as far back as late in 1700, and until the event of the founding of the Golding business was used for various manufacturing purposes. This building formed the initial flint and spar mill of the company, and has been remodeled for the needs of the concern as the years have gone by.

The plant installation consists of three chaser mills, with stone mullers, and 14 cylinder mills, providing a total capacity of about 80 tons of material per day. All grinding and pulverizing is done with stone, this insuring the greatest possible elimination of iron specks or other foreign blemishes, so destructive and annoying in fine ceramic manufacture. The chaser mills, used for the preliminary grinding, are of edge runner type, and operated at slow speed. The rolls are driven by means of a gear and pinion placed at the top of a vertical shaft, and which shaft, in turn, is connected to a horizontal one bearing the rolls. The mills are provided with fixed perforated pans; they are located along the side of the main building, and are fed with material from the floor level, as illustrated in Fig. 3, which shows the wood housing for elevators and other mechanism, extending to the ceiling.

Following, the material is elevated and screened, and is then sent to the pebble mills or cylinder mills for pulverizing. These mills are filled with selected French pebbles, each carrying from 50 to 60 pounds of such material. They are rotated for a period of about six hours

for the proper grinding of the flint and spar. The material is ground to different sizes, as required, and passed thru screens of 140-mesh, 300-mesh, etc.

The plant is provided with three kilns, as shown in Fig. 4, and which are used for calcining French and American flint. All flint production is subjected to kiln action in connection with operation, as the material is too hard to be worked otherwise.

An effective iron grate bar device has been arranged for the handling of flint at the plant. This consists of a flat iron grating over an opening connecting with the basement of the main building. The grating is located outside along the driveway and covered with wood shed. The material, as delivered, is dumped on the grating and passes below; here it is taken by cars to the elevator, and thence conveyed to the mills.

The company operates its own power plant for works service. The installation in this department consists of a Watts-Campbell Corliss engine, 22 by 42 inches, of 400-horsepower rating, and two Ames boilers, of 300-horsepower capacity. The auxiliary equipment comprises heater, feed water pumps and other apparatus. The engine is arranged for a direct rope drive on about 70-foot centers for the operation of the mills. Emergency equipment is provided to throw the load to a water wheel run by means of the local water power, as may be necessitated.

STOCK AND FACILITIES

The company maintains a large stock of raw materials on hand at all times, aggregating about 3,000 tons and valued at approximately \$50,000 at the Trenton works.



Fig. 3. Place in Plant Where Raw Materials Are Fed Into Elevator Which Supplies Mills With Clays for Grinding.

This stock includes spar from New York, Maine, Maryland and other points, Canadian talc, French boulder flint, English flints, American flints, Cornwall stone and kindred products. Fine clays are also handled, including English

ball clay, Georgia clay, etc. The bulk of this material is kept under cover, and sheds are located at different parts of the yard, as shown in Fig. 5, for this purpose. Subsidiary materials are also handled for potters' con-



Fig. 4. These Three Kilns Are Used on This Plant for the Calcination of French and American Flint.

venience, such as bone for bone china and other commodities.

Improved facilities have been provided for handling the finished production. Along the side of the main building various bins are arranged conveniently located to the mills for direct delivery of output. These bins are partitioned off for the different grades of material, and are provided with weighing and loading devices; the material is delivered ready for mixing. The company maintains a stock of about 800 tons of finished material on hand, including English flint, French flint, sand flint, and spar of different varieties.

OTHER PLANT OPERATIONS

It is interesting to note the extensive facilities of the Golding Sons Co. as provided by its different plants. The three main works at Trenton, East Liverpool, Ohio, and Wilmington, Del., as referred to, have a total of 45 mills. The East Liverpool works comprise what is said to be the most modern flint and spar mill in the country, and production at this plant is at a high point of efficiency. All stock is kept under cover at both the East Liverpool and Wilmington plants.

The company controls the entire output of the Carolina Mineral Co., the largest concern of its kind in the state of North Carolina; extensive spar quarries at Georgetown, Me., have been operated for exclusive Golding production for the past forty years, and these properties supply the source of Maine spar distributed by the organization. Large, rich clay properties are operated at Butler, Ga., and Hockessin, Del.

As the case with the different ceramic industries which it supplies with materials, the company has been oper-

ating at reduced capacity for some time past, and like others in the business before the close of the war, experienced difficulty with the fuel and labor conditions. Also in the matter of raw materials, particularly imported products, the situation was at times a trying one; the difficulty in obtaining French boulder flint led to the substitution of English chalk flints at one time, and every effort was made to furnish the best possible materials to potteries and other ceramic plants. Charles E. Golding, president of the company, is active in the management, and the high standing which the company enjoys can be attributed, in a large measure, to his enterprise and progressiveness. John M. Manor is vice-president and John M. Wright is secretary and treasurer.

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Sebring Potteries Insure Employees

Five potteries at Sebring, Ohio, are putting into effect a system of free insurance for their employees, according to recent announcements made. The insurance system will effect about 1,500 men and women employed in the five potteries.

Every employee who has been in the employ of the company one year will receive a \$500 insurance policy. For each additional year of service \$100 will be added until a maximum of \$1,000 is reached.

The five potteries adopting the system are the Sebring Pottery Co., Limoges China Co., French China Co., E. H. Sebring China Co. and the Saxon China Co.

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The San Francisco offices of the California Pottery Co. are now located in the Chronicle Building, Room 825. The old quarters were at 12th and Otis Streets.



Fig. 5. Showing a Storage Shed Where High Grade English and Domestic Clay Are Placed.

The James E. Flanagan Pottery Co., of Cambridge, Ohio, has been chartered with a capital of \$50,000, by

James E. Flanagan, George H. Harris, Benjamin F. Kiser, Carl H. Pollock and Charles C. Cosgrove.

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Reconstruction work at the Clark pottery in the West End, Alameda, Cal., is progressing steadily. The foundations are in and the framework will be under way in a few days.

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The twenty-ninth convention of the National Brotherhood of Operative Potters will open Saturday morning, July 5th, at Atlantic City, N. J. The excursion on July 3rd will be over the Pennsylvania Lines.

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The West Virginia Porcelain Co., at New Haven, Ohio, has received its charter and elected the following officers: President, Dr. J. T. Ferrell; vice-president and treasurer, J. C. Layne; secretary, Chas. Turnbull. The plant will manufacture electrical porcelain and will employ thirty to forty men.

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Shipments of high-grade English clays still continue unsatisfactory as to quantity and delivery and prices of delivered material are still increasing in spite of contracts that specify a fixed price. Foreign shippers are unable to guarantee deliveries in large volumes. Imports are still below normal and it is not expected that they will increase materially in the near future. The following prices are quoted on china clay (kaolin) per ton f. o. b. New York: Domestic lump, \$10 to \$20; domestic powdered, \$60; imported lump, \$35; imported powdered, \$60.

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Employees at the plant of the Thomas Maddock's Sons Co., Trenton, N. J., manufacturers of sanitary earthenware, are arranging a fund to provide for a memorial tablet in the club room for workers at the pottery who were in the service during the war; it is expected that a sufficient amount will be obtained to allow for a handsome and enduring testimonial to these boys. In this connection, a number of men who were in the service have now returned to their former positions at the works, including employees in the clay, pressing, biscuit and other departments.

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Some apprehension is felt by producers in England that their pottery trade, particularly in Canada, may be lost to the United States. During the war great progress was made in the manufacture of high-grade chinaware and porcelain in this country and some grades are considered equal to European products. As English china was very difficult to obtain it was natural that Canada and South America should buy American ware. Doubtless some of this trade will be retained but eventually most of it will probably go back to England. In South American markets freight rates would not be much in our favor and English labor costs are much lower. In the Canadian market our lower freight rates would be more than offset by the difference in labor cost and in tariffs, British pottery being admitted at 17 per cent. while the rate on that from the United States is 34 per cent.

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The Monument Pottery Co., Trenton, N. J., is decidedly active in the promotion of all-clay plumbing fixtures, and justly so. While material of this character is slightly higher in cost than substitute products, there is hardly any comparison in the results, and the difference is more than worth while. Monument all-clay plumbing fixtures stand high in the trade; they are noted for their durability, beauty of design and brilliancy of glaze. The

product from this plant is found in the finest hotels, including the Copley-Plaza, Boston; Du Pont Hotel, Wilmington, Del.; the Auditorium and Annex, as well as the Blackstone Hotel, Chicago; and the Green Brier, at White Sulphur Springs, W. Va. The installation at this latter hotel includes probably the finest sanitary ware of this character ever produced, being gold mounted in certain instances and the "last word" in every particular.

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There is little if any change in the pottery situation at Trenton, N. J. The general ware plants continue to be busy and there is quite a little business being placed for this character of material. The electrical porcelain plants are coming along in better shape and it is anticipated that capacity production is not very far ahead; electrical manufacturers in resuming activities in the manufacture of popular specialties, are making a call for material at the different local plants. Such concerns as the Trumbull Electric Manufacturing Co., Plainville, Conn., the Benjamin Electric Manufacturing Co., Chicago, and many others use Trenton plants for numerous porcelain articles. The sanitary earthenware plants look with great favor on the resumption of building work thruout the eastern district, and it is believed that before very long the effects of this movement will be felt in the demand for bath room and other sanitary fixtures. While capacity in this line has been hovering around 50 per cent., it has the appearance of early increase.

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A branch of the California Pottery Co., with headquarters at the 23rd Avenue station, East Oakland, has been established at Fresno, Cal., with H. J. Crowe in charge. The outputs of several of the factories will be handled by the new organization in Fresno, and F. A. Costello, president of the company, has announced his desire to add more concerns to his list for representation in the San Joaquin Valley. He explains his aims and plans as follows: "When we entered the Fresno field, we found that the clay products companies of Los Angeles had a practical monopoly, altho Fresno is nearer to Oakland than it is to Los Angeles. We have made a careful study of the situation and are of the opinion that the San Joaquin Valley is very inadequately covered by firms manufacturing in the bay region. Besides having a yard in Fresno, we have opened offices in the Rowell Building there, and are maintaining an exhibit of products. We are representing not only ourselves but the Stockton Fire & Enamel Brick Co., the California Brick Co., of Niles, and the Livermore Fire Brick Co. We have no doubt that there are many small firms manufacturing in Oakland, which could not stand the expenses of having a permanent representative in the San Joaquin Valley. It is firms of this character that we are anxious to meet." In speaking of activities in the interior of the state, Mr. Costello said: "There is no section of California that is advancing more rapidly than this valley (the San Joaquin). In Fresno a bond issue has just been put thru for \$200,000 worth of sewer work. There is another bond issue before the people for \$4,500,000 worth of road work. Besides that there is a third bond issue contemplated for a \$750,000 high school. All the large associations, such as fruit growers, etc., are planning to erect large warehouses. It is necessary for firms desiring to do business in Fresno and surrounding country to have a representative permanently on the job. This territory simply cannot be covered by traveling salesmen, particularly for building lines." Mr. Costello says that the exhibit of his company is the only one of its kind in Fresno and has been a source of good advertising for the industry.

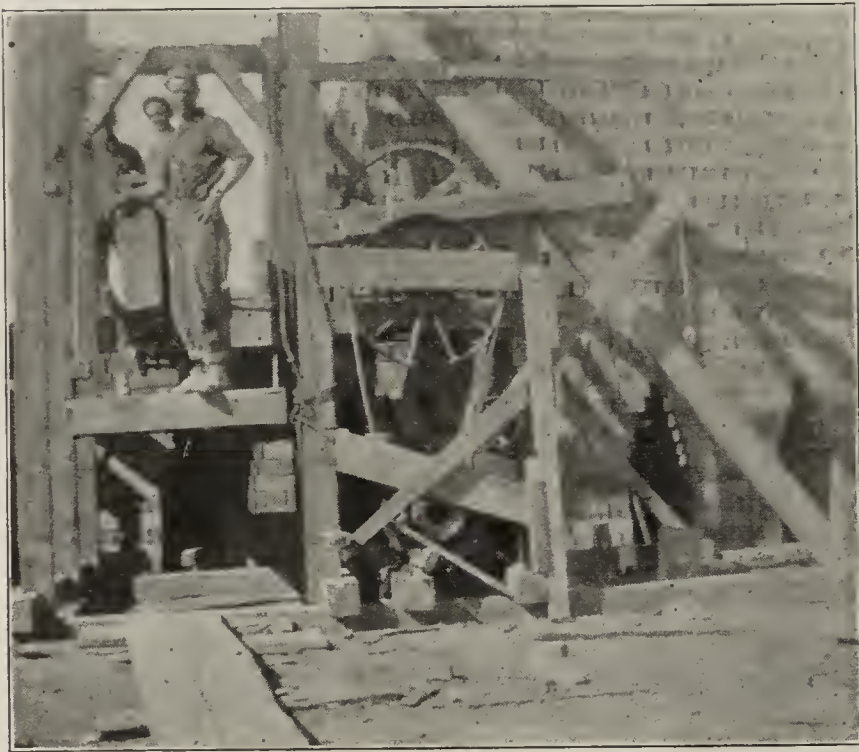
The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Facilitating Kiln Setting

Setting scove kilns, unless you have capacity sufficient to warrant the use of a setting machine, is a laborious task especially when it comes to placing the brick in the top courses. In this case the brick have to be tossed and a slowing up of setting accompanies the additional labor.

The Bend (Ore.) Brick & Lumber Co. have devised a scheme whereby tossing of brick is entirely eliminated. They set several arches from the ground up by taking the brick from the wheel barrow and follow this system to a point in the setting to the highest elevation they can reach. From this stage on, an elevator such as is shown in the accompanying photograph is used. It is arranged so that the wheeler standing on the platform of the elevator, pulls a rope, raises the brake and tightens the belt on the gasoline engine at the same time. When he reaches the desired height he lets go of the rope which drops the brake and loosens the belt on the engine. He then wheels his brick on the kiln and returns with an empty barrow. By pulling the rope just enough to release the brake but not enough to tighten the belt the platform descends to the ground ready for the next man to elevate his load of brick.



Elevator Devised by the Bend Brick & Lumber Co. for the Elevating of Wheelbarrows Loaded With Brick to be Set in the Scove Kiln Shown in Background.

This device has been found quite a labor saver on the above plant and overcomes those difficulties met with in tossing brick, especially when inexperienced tossers are on the job.

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Dryer Too Frequently Neglected

In visiting clay plants it is too frequently noticed that the dryer is a very much neglected apparatus. Doors are permitted to fit very loosely, in fact, you often times can see doors that are in a very dilapidated condition and

which permit the influx of cold air continually. This cold air may be the cause of the checking of ware which is not shown up until after burning.

Faulty construction of the tunnels is very frequently noticed. Too much space between the ware on the car and the walls and roof results in poor drying. It is only natural to expect the air to take the path of least resistance and when the space is large enough all the air for drying capacity sweeps thru the tunnels while a dead air space which does no drying lies between the cars and in the hacked brick. The proper space separating the walls and the roof is about four to six inches.

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How to Thread a Short Pipe

To thread a pipe close to a bend or to thread a close nipple, reverse the dies in their sockets and use the stock in the reverse position but rotated in the right direction. This leaves no guide for the die, so to provide this use a short pipe of the size being threaded, having a good thread on one end, and insert it thru the guide or follower and screw it into the die to act as a support. This can be held straight while the stock is turned and the thread started. When a few threads have been made, remove the guide pipe.

If plenty of oil is used, an excellent thread can be cut according to H. G. Stoddard in "Power." Care should be taken to pull evenly on both handles or sides of the stock.

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Broad Knives Desirable for Pug Mill

The value and efficiency of a pugmill depends upon its size and upon the arrangement of the knives. If too small, and especially if too short, the mill will not mix the clay sufficiently, and if the knives are incorrect in shape, or are badly arranged, the clay will emerge without being homogeneous. The older forms of pugmills are inefficient, as the blades are too small to be of much service and the amount of kneading and mixing which occurs is comparatively small. Broader knives, which would act better, require more power than other knives but make up in their gain in effectiveness.

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Workmen Can Offer You Valuable Suggestions

In talking to workingmen around railroad stations, street cars, public utilities or other factories you have at some time or other heard them condemn a certain system they were compelled to follow and perhaps offer a substitute which they thought would work better. If you were able to be around different parts of your plant unnoticed, oftentimes you would find that this same condition holds true. Very often these workingmen are able to offer valuable suggestions.

A certain prominent clay plant operator has offered a prize to the man on his plant who offers the best suggestion each week. Every Monday morning at ten o'clock business

is suspended so far as the foremen are concerned, and they go to the office to have a conference. The first week that this was tried out the scheme would not work successfully. The second week they began to loosen up and give ideas. The owner was very much surprised to hear the many valuable suggestions that he obtained. He appointed a committee who decided the winner of the prize money and much good has resulted from this plan.

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Machine Study to Increase Efficiency

If you wish to get the best out of any machine you must study it in regard to the details of its work. You must analyze its work by dividing it up into its constituent operations and must pay attention to each of these. Only by this detailed study can you learn where the defects in procedure arise and how to prevent them.

In the case of a pipe press (which is simpler than a brick machine and therefore is mentioned first) the operations are as follows:

- (1) Preparing the machine to make pipes.
- (2) Filling the machine with clay, or keeping it supplied with clay.
- (3) Adjusting the die and making the pipes come out true and good.
- (4) Starting the machine.
- (5) Making the pipes.
- (6) Stopping the machine.
- (7) Removing the pipes.
- (8) Cleaning the die and putting the machine in position ready to make a second pipe.
- (9) Restarting the machine usually at (2) and (4) and so on.

A careful investigation of these various steps will show that losses of time and material may occur at each and if any one of the operations is done badly or omitted it will be quite impossible to make good pipe.

In the case of a brick press a similar series of operations is necessary and the same remark as to obtaining efficiency is applicable.

Yet how few brick manufacturers have ever satisfied themselves that they are getting the best out of their machines by any such detailed investigation as is suggested above? Here, then is an opportunity for increasing the output and also the profits of any firm making pipe or pressed brick.

With a wire-cut brick machine the operations are more complex as such a machine is usually an assembly of several machines, each of which has its own constituent operations, and should, therefore, be studied separately. This was well understood by the old makers of machinery who always described their plants as "Two Process" or "Three Process" machines. Taking each part separately we have (a) the rolls used for crushing the clay with the following operations:

- (1) Preparing the rolls for work and starting them.
- (2) Feeding the rolls with clay.
- (3) Adjusting the rolls to deliver a suitable "ribbon."
- (4) Insuring that the crushed clay enters the pugmill.

(b) The pugmill or mixer, with the following operations:

- (5) Preparing the machine for the work.
- (6) Adjusting the water supply and keeping it correct.
- (7) Watching the mixer to see that the clay is of the desired consistency and adjusting the machine accordingly.

(8) Adjusting the supply of paste to the amount needed.

(c) The die or mouthpiece, with the following operations:

- (9) Preparing the die, including fixing it, if necessary.
- (10) Adjusting the die so that the clay column runs true, and is of good shape and sufficiently smooth.
- (11) Adjusting the lubricator (whether steam, water or oil).
- (12) Cutting off the column of clay.
- (13) Pushing the clay to the cutting table.
- (14) Returning to the machine ready to cut off more clay.

(d) The cutting table with the following operations:

- (15) Adjusting the column on the table.
- (16) Cutting the column of clay.
- (17) Removing the brick ends and disposing of them.
- (18) Removing the brick onto the wagon, barrow or other carrier.
- (19) Removing the pallet (if used).
- (20) Restoring the table to its normal position (if a movable table is employed) and cleaning the wires.

These twenty operations do not exhaust the list, but they are sufficient for the moment and are the most important ones. Any brick manufacturer who will take one of these operations at a time and will use his utmost endeavor to get it accomplished with the least possible disturbance or stoppage, and with a minimum waste of labor and material, will be almost certain to find that he has had to affect several noteworthy changes in the procedure usually employed by his men. If he will then take each of the other nineteen operations in turn and will deal with them in an equally thoro manner he will find that he has discovered quite a number of sources of expense which were quite unnecessary and yet were eating holes in his profits in a manner which he scarcely realized.

A similar study of the boiler and engine will lead to equally profitable results, provided that it is carried out with great thoroness and that the lessons to be learned from such a study are put into practice. It is useless learning that a saving in fuel may be affected by altering the pressure at which the boiler is worked unless the alteration is made. Similarly it is of no use realizing that each time a cutting table is operated material equal to $1\frac{1}{4}$ brick is thrown back to the mixer unless some means is employed for stopping this waste.

The results alone count, and it is obviously futile to make any change until it is quite certain that it is in the right direction. Moreover it is necessary to see that any such change is in harmony with the other part of the machinery. For instance, it is useless setting the rolls to deliver more clay than the mixer can deal with or than can be passed thru the die of the machine. It may be that the rolls are too large and that some saving in power might be effected by using smaller ones, but this is another question which requires very careful investigation before a change is made.

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Should Have Read "Millions"

In the editorial appearing on page 964 of the June 3 issue of *Brick and Clay Record* entitled, "Advise Buying Coal Now," the statement was made that there are only "eight billion tons of bituminous coal being mined while last year at this time eleven billion tons a week were being produced. The word "billion" should have read "million."

IN *the* WAKE *of the* NEWS

Being a Brief Mention of a Host of Interesting Happenings in the Varied Fields of the Clayworking Industry

Personal

J. N. Gregg, a brick and lime manufacturer of Kennett, Cal., was a recent San Francisco visitor.

Louis P. Pfeifer, who served in the 324 field artillery, in France, has returned and resumed his position as salesman with the Gaddis-Harrison Co., of Columbus, Ohio.

J. A. Lansberry, of New Comerstown, Ohio, has removed to Moundsville, W. Va., where he will take charge of the Suburban Brick Works. The plant will start work immediately.

Erwin J. Farr, formerly connected with the Builders and Traders Exchange, Detroit, Mich., has accepted a position in the sales department of the Colonial Brick Co., with offices in the Penobscot building.

Louis S. Burk, well-known potter of Trenton, N. J., died at his home in Trenton, on June 1, after a prolonged illness. He was 82 years of age. Mr. Burk was formerly director of the Greenwood China Co.

Cleveland Hartzell, who for the past two years has been superintendent of the White Hall (Ill.) Drain Tile Co., has accepted a similar position at plant No. 1 of the White Hall (Ill.) Sewer Pipe & Stoneware Co.

C. H. Nold has been appointed district manager of the Harbison-Walker Refractories Co., at Philadelphia, Pa., with offices in the Morris Building, succeeding J. E. Morgan, who recently resigned to become general sales manager for the Eastern Refractories Co., Commercial Trust Building, Philadelphia.

Will P. Blair, vice-president, and Maurice B. Greenough, secretary, of the National Paving Brick Manufacturers' Association, Cleveland, Ohio, have returned from a meeting of the advisory committee of the association held at Indianapolis, Ind., May 30 and 31. The committee met at the offices of the Indiana association and was entertained in tours of the city by local members.

W. H. Kelly, for the past eight years special representative of the Harbison-Walker Refractories Co., has resigned to become sales manager for the Eastern Refractories Co., covering the Pittsburgh, Pa., district, with offices in the Bessemer Building. J. W. Dowling, representative for the Harbison-Walker Refractories Co., in the Youngstown Valley, Ohio, district, has resigned to become associated with the Eastern Refractories Co., as sales manager for the Youngstown district, with offices in the Bessemer Building, Pittsburgh.

California

Architect Edward Foulkes, of San Francisco, prepared the plans for the new \$12,000 brick jobbing house to be used as the San Joaquin Valley branch of the United States Rubber Co.

Blanchard, Crocker & Howell, as lowest bidders, were awarded the fiber brick pavement contract for improvements to various San Francisco streets, namely, Crescent Avenue between the easterly lines of Andover and Prentiss Streets, including the crossings of Crescent Avenue and Moultrie,

Anderson, Ellsworth, Gates, Folsom, Banks and Prentiss Streets.

About three months ago, in order to stimulate building, a concession was made by brick manufacturers, who offered carload lots at \$10 per thousand. In the San Francisco district, this price has already been advanced to \$12.50 and local dealers say that a further advance is necessary. Pressed brick, formerly selling at \$33.50 per thousand, is now sold at \$45.

Los Angeles improvements are steadily on the increase. The May building permits were listed at \$2,078,295, indicating an increase of about \$500,000 over the April reports. San Diego activities made a sudden jump during May. The April permit record showed \$118,580 worth of improvements, which advanced to \$1,045,015 in May. Portland building permits show practically the same ratio of advancement, but the slump during April was due to the abnormal labor conditions in that city. Oakland permits are about the same as last month. Housing conditions are extremely inadequate in the East Bay City, but building activities are slow in returning to normal.

Construction work on the new home for the First National Bank of Sanger, Cal., has commenced. The \$35,000 structure is to have an exterior of white terra cotta with an interior of hardwood and marble and tiled flooring. The plans for the building were prepared by E. Mathewson.

The controlling interest of the Washington Brick, Lime & Sewer Pipe Co., of Spokane, Wash., was recently purchased by A. B. Fosseen, president and general manager of A. B. Fosseen & Co., retail dealers in building and irrigation supplies at Yakima for eleven years, who will move his personal headquarters to Spokane upon assuming the presidency of the newly purchased company.

Local brick and other clay products manufacturers and jobbers are lending hearty cooperation to the "Build Now" movement among the San Francisco contractors. In the opinion of the majority of those in authority, market conditions are more stable now than they have been for months, and there is a tendency for prices to increase rather than diminish. The April and May building permits are larger than last year, but there still seems to be an inclination among the greater portion of prospective builders to wait for a decline in costs of labor and materials. According to men best informed on this subject, there is no chance for such a situation to come about. In fact, a large percentage of the architects and contractors are expecting a decided raise in prices during the next six months because of the continued exodus of foreign labor.

Connecticut

Practically all of the brickyards near Berlin and elsewhere in the brick manufacturing belt in Connecticut, have now resumed operations for the season. The weather has been particularly favorable during the past few weeks, in direct contrast to conditions a year ago, and the labor situation also is greatly improved over last year. High wages, however, are still to be considered while the cost of materials, includ-

ing fuel, shows no indication of coming down. Many of the yards opened with goodly orders in hand and all the manufacturers are optimistic as to the future.

Delaware

There is great activity in realty circles at Wilmington, Del.; in the matter of exchange and sale of property "boom" conditions are evidenced, and it is rather a seller's market as prices are running. During the early days of June property to the value of over \$150,000 changed hands, embracing, for the most part, homes, dwellings, etc. Local concerns in the realty line are highly encouraged with the general outlook, and this demand for buildings is reflected in the inspiration to "build now."

There is a fairly good call for brick and other building materials at Wilmington, Del. The large bulk of product in the brick line comes from the producing section at Philadelphia, which is but a short distance from the city as regards mileage. Good, hard common brick is selling in the neighborhood of \$18 and \$19 per thousand, delivered on the job. The call for face brick is increasing, with prices, wholesale, ranging from \$35 to \$50 per thousand for selected stocks. Hollow tile and other burned clay building products are operating under an increasing call.

An interesting and commendable movement is under way by the Delaware Safety Council to establish a course in "safety first" in the local public schools. A night school will also be operated, probably in the fall, for "safety" supervisors. Local concerns, including ceramic interests affiliated with the council will be privileged to send one or more men to take the course. The instructions will be designed to qualify the men to work out safety problems for use in their own shops, at the same time educating employees in the value of "safety first" at all times.

The building situation at Wilmington, Del., is decidedly encouraging. The different industrial interests in this section, such as the E. I. du Pont de Nemours & Co., the Hercules Powder Co., the Electric Hose & Rubber Co., etc., have brought many employees to this section since the close of the war, and there is quite an urgent demand for homes. While the so-called high prices of building materials are retarding construction work to the desirable point, there is an active movement in house and apartment work. Architect Roscoe C. Tindall has taken bids for the construction of a three-story brick apartment addition to cost about \$20,000; a one-story and basement brick club house is to be erected on Concourt Avenue, by the Washington Heights Century Club.

Illinois

The Springfield Clay Products Co., which concern took over the old Springfield Drain Tile Co., and is erecting a new modern clay plant near Springfield, Ill., was licensed to incorporate to manufacture drain tile, hollow building tile, etc. The capital stock is \$125,000. The incorporators are: C. F. Headington, Earl R. Cartwright, J. A. Long and W. C. Hoover.

Iowa

"Business is very good in the tile and building material end of the game," writes Claude Smith, of the Smith Brick & Tile Co., Sheffield, Ia. He further says that all of the plants are six weeks to two months behind with their orders. The only difficulty they are experiencing is securing enough labor to operate their plants. One of the Sheffield Brick & Tile Co.'s plants is shut down on account of shortage of labor, and two of the Mason City

Brick & Tile Co.'s plants are also shut down. Better labor conditions are hoped for later in the season.

Kentucky

Leonard B. Shouse, of Lexington, Ky., head of the Leonard Hotel, is behind a new syndicate which has been capitalized at \$1,000,000 and has started work on a twelve-story hotel.

The Progress Press Brick Co., Louisville, Ky., expects to start operations again within a few days, as it has been selling a good deal of brick, and will have kiln room to go ahead again.

Some very handsome brick will be used in construction work at Dam 43, Ohio River, near Pilcher, Ky., where the Government contractors have placed a contract for 50,000 iron spot brick with the R. B. Tyler Co., of Louisville, Ky.

Business with the Louisville (Ky.) Fire Brick Works is still quiet, but is coming slightly better than during late April. However, the company is fairly well stocked and is facing a close down unless the steel and furnace interests start buying on a better scale.

The Coral Ridge Clay Products Co., Louisville, Ky., is still operating at about half time, but with prospects slightly improved, and a small increase noted in orders. Manager James T. Howington has just returned from a southern trip.

The Southern Brick & Tile Co., of Louisville, Ky., has about completed all of its tile installation contracts, and at the present time is well up with all orders. The plant is in operation, but is principally working on stock, with very little new business on hand just now.

The P. Bannon Pipe Co., Louisville, Ky., reports that business is a little slow just now, with no heavy demand for either brick or building tile, but with improvement in sewer pipe demand. The company is of the opinion that it will be very busy within a few weeks.

The Louisville (Ky.) Builders Supply Co. is again moving its offices to the Realty Building, which it deserted about three years ago, when it decided to operate its offices in connection with the West End warehouse. The new location is more central and in closer touch with the building interests.

Some very attractive cooperative advertising is being done in Louisville papers by the building interests, and some clever individual advertising. An interesting feature of much of the home advertising this year is in that it features tile roofs on attractive one story bungalows, and brick veneer construction.

A considerable amount of brick veneer construction is being noted thruout Louisville this year. The General Construction Co. is erecting two very handsome brick veneer residences in the exclusive Windsor addition. Charles Meriwether will shortly let contracts for five additional brick veneer bungalows.

One of the largest contracts placed so far this season fell to Alfred Struck Co., builders of Louisville, Ky., and consisting of a \$200,000 addition to the Atherton Building at Fourth and Chestnut Streets. Bids will be asked shortly. The building brick contracts will be open, but the face brick contract will go to the R. B. Tyler Co., whose hydraulic line was used in the original structure.

Manager Cramers, of the brick department of the R. B. Tyler Co., Louisville, Ky., reports that he is securing a large number of excellent contracts for high grade face brick in lots of 10,000 to 25,000, with prospects of a big contract in matching up the brick used in facing the Inter-Southern Building, and also prospects of furnishing terra cotta to match up facing material in event the Speed Building is en-

FIRE BRICK

DOVER FIRE BRICK CO.

Incorporated 1870

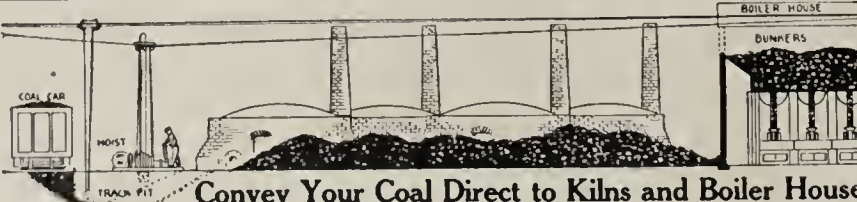
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Convey Your Coal Direct to Kilns and Boiler House
with a GODFREY Power Conveyor
Simple—Practical—Durable. Installation and Upkeep Costs Low.
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Superior to all; Reds, Browns, Buff, Black
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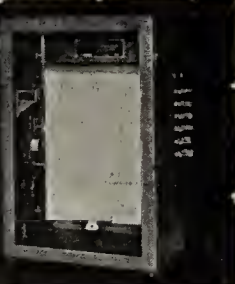
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Thwing Pyrometers

High Resistance Indicating and multiple Record Types for all industrial purposes.

Tell us your conditions and we will explain the economies or improvements that pyrometers will effect.

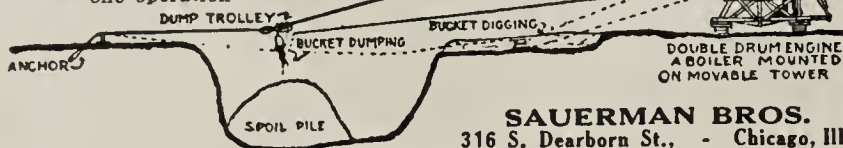
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SAUERMAN'S

Dragline Cableway Excavator

It digs, conveys, dumps in one operation



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For Mortar Cement and Brick

Brown, Black, Red and Buff Strongest and most durable

Manufactured by

C. K. WILLIAMS & CO., EASTON, PA., U. S. A.

Correspondence solicited

DO YOU USE PYROMETERS ?

Try Frink Sheathing Tubes

THEY have long life.
THEY are made from the best clay.
THEY transmit slight variations of temperature.
THEY require no supporting tubes.
THEY are worth more than they cost.

Ask for prices today.

THE FRINK PYROMETER COMPANY
LANCASTER, OHIO, U. S. A.

You will enjoy FRINK HINTS each month. Sent without cost. Ask for it.

larged. He has recently sold the face brick for the fine new Dunlap Garage on South Third Street, which will use U. S. Velvet Mat. He also has several nice residence contracts locally, and at Shelbyville, Ky.

Jake Greenberg, owner of the Galt House, Louisville, Ky., which was recently sold to the Belknap Hardware & Mfg. Co., which plans to use the site for an office building costing several hundreds of thousands, has announced that he plans a new hotel for Third and Chestnut or Fourth and Broadway, at a cost of \$1,500,000, and to have 500 rooms. The Grand Lodge of Masonry in Kentucky has started a campaign to raise \$1,000,000 for a new widows' and orphans' home and headquarters in Louisville. The Frank Fehr brewing interests have plans for two large apartment houses, one on the present site of the Tavern Club and another at Third and Avery, on the Magnolia Garden site, the latter site being owned by the Fehr interests.

Maryland

The Baltimore (Md.) Brick Co. with plant at Rossville, is assuming greater activities at its yards. Up to recently the company has been operating at about one-half normal capacity; with the more extended operations in building circles, the call will develop a larger output. No reduction in price is looked for now or in the immediate future and while labor conditions are tending to right themselves, there is still difficulty in the situation.

To assist the Port of Baltimore in export and import trade, and arrange foreign trade activities for local manufacturers, the Inter-Continental Trading Corporation has recently been formed, with offices in the Keyser Building. The company's charter allows extended domain of operation, covering import and export for its own account and others; to act as forwarding agent and consignee; to own and charter vessels; to finance exports and imports, and other work. H. L. Whitridge, member of the banking concern of J. S. Wilson, Jr., & Co., has been elected president; and Warner D. Huntington, vice-president, of the Davison Chemical Co., vice-president of the organization. Operations are expected to cover ceramic interests among others.

Brick and different standard building specialties are operating in a good manner at Baltimore, Md. The call could be better, but the way that things are assuming a near-normal plane is decidedly encouraging. Prices hold firm at present levels and with no indication towards recession; in this connection, a few of the local dealers express the opinion that there is likely to be an advance in certain quotations in the future. Good, hard, common brick in this section is bringing around \$14 per thousand. High-grade face brick is averaging from \$35 to \$45 and upwards per thousand, light colors being in popular demand. Hollow building tile ranges from \$60 and higher in price, according to size. There are a number of brick producing plants in this district at Rossville, Violetville, Westport, Orangeville and other points, making a good supply of material available in the local market.

As an aftermath of war activity, things are commencing to change a little at Baltimore and neighboring sections as regards industrial operations, and it is expected that a curtailment in certain lines will materially assist the labor situation. The first ship yard to close down will be that of the Henry Smith & Sons Co., at Fairfield, and before the close of June it is likely that the remaining employees will be dismissed. At one time the yard gave employment to about 1,000 men. The Ordnance Depart-

ment has a large force of men engaged at the local munition plants at Baltimore arranging for the disposal of machinery and equipment formerly in service. Considerable equipment will be removed to the Government arsenals in different parts of the country. Among the companies in this line to curtail operations are the Bartlett-Hayward Co., the Hess Steel Co., the Crown Cork & Seal Co., and the John T. Lewis & Bros. Co.

Baltimore is making good strides to return to a pre-war basis as regards building activities, and a number of interesting projects are now under way in this section. The big operations in housing work show evidence of the great need for homes; a total of 22 brick residences will be built on Montpelier Street, by James B. Yeatman, 3430 Auchentorely Terrace; 25 brick dwellings will be erected on the Old York Road by the Rochester Home Building Co.; while 22 brick homes will be built at Thirty-sixth and Cedar Streets, by M. C. Davis, 902 West Thirty-sixth Street, and associates. A notable industrial project is to be launched by the Bethlehem Steel Co., at its Sparrows Point works, near Baltimore. For the past year the company has been making extensive additions in this plant and it is now proposed to continue the expansion work to an estimated cost of over \$5,000,000. The new construction will include 12 sheet mills, addition to present tin mill, new tilting type open-hearth furnace, and other operations. Large quantities of fire brick, common brick and other burned clay products will be necessary for construction.

Massachusetts


A strike of carpenters which has seriously interfered with building operations in Boston, Mass., and the immediate vicinity, has had its effect upon the brick market. Dealers find business gradually increasing but it is generally admitted that the carpenters' strike has kept business down from what might have been expected at this season, particularly with the agitation for resumption of building activities which is admitted, having considerable effect on all sides. The price for brick, delivered on the job, remains firm at \$18.

Missouri

Two more building projects of mammoth scope were launched in St. Louis recently and are regarded as a boon to contractors and manufacturers. The United Drug Co., of Boston, Mass., a concern which does a business of more than \$50,000,000 annually, has purchased 10 blocks of land at King's Highway and San Francisco Boulevards, and will erect a \$2,000,000 eight-story plant and wholesale house which will employ more than 2,000 persons.

Harry C. Kennedy, St. Louis (Mo.) representative of the Interstate Clay Products Co., speaking on local conditions, said that factory construction in St. Louis at present has surpassed all previous records and that prospective work along the same line is almost double that of today. Prices of materials will not be reduced, he declared, and while industrial construction work is pushing residence and apartment building into the background activity in the latter work is also on the increase due to the realization that building to be done this year can be delayed no longer in hope of further reductions. There is an almost unlimited field at present for contractors and manufacturers who are willing to plunge into the big deals. Mr. Kennedy stated that he had seldom, if ever before, had as many bids placed as at present.

If this is what happens to your belting read "Gone Again" an interesting booklet on the problem of belt joining. Free, of course.



CRESCENT BELT FASTENERS
"For Continuous Production"
 CRESCENT BELT FASTENER CO. 301 Fourth Avenue, New York, N. Y.

Reduce the chances of
FIRE
 PREVENT
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By equipping your watchman and burners with a
HARDINGE Watch Clock



You will save in insurance more than the cost of the clock system—to say nothing of the increased efficiency of your night force.

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Hardinge Bros Co., Inc.
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"HERCULES" (RED STRAND) WIRE ROPE
 (REG. U.S. PAT. OFF.)

Its Strength and toughness make it durable, safe and economical

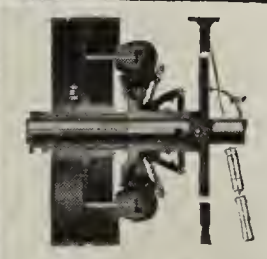
THE ORIGINAL COLORED STRAND WIRE ROPE
 MADE ONLY BY
A. LESCHEN & SONS ROPE CO.
 ESTABLISHED 1857
ST. LOUIS, MO.
 NEW YORK. CHICAGO. DENVER.
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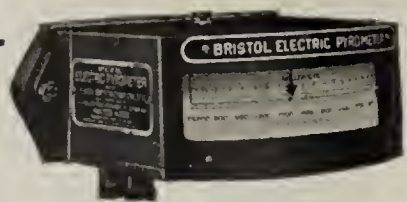
Hill Friction Clutches
Collar Oiling Bearings
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Complete Power Transmission Machinery Equipments

Catalogs upon Request

The Hill Clutch Co.
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Hill Friction Clutch Pulley
 Smith Type
 (Patented)



BRISTOL'S PYROMETERS

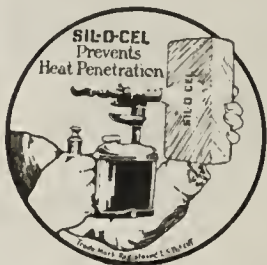
For Indicating and Recording are particularly adapted to high sustained temperatures, where the value of entire burns are dependent on correct readings.

They measure up to the high standard maintained by Bristol's Instruments for over a quarter of a century.

Write for bulletin AE-205

THE BRISTOL CO., Waterbury, Conn.

Heat Losses Must Be Reduced



The ceramic industry faces a permanent increase in fuel costs. Insulation of kilns with Sil-O-Cel is the most effective step in reducing this waste. The most efficient kilns in the country are insulated with

SIL-O-CEL

Write for blue prints and Bulletin R-71.

CELITE PRODUCTS COMPANY

NEW YORK CHICAGO PITTSBURGH LOS ANGELES SAN FRANCISCO
11 Broadway Monadnock Bldg Oliver Bldg Van Nuys Bldg Monadnock Bldg

They Drill Big Blast Holes

at the plant of the Kansas Buff Brick & Manufacturing Co., Buffville, Kansas.

They say:

"It has cut the labor and fuel bill about 60%, and the powder bill about 50%. It paid for itself in the first three months; it saves enough powder each year to more than pay for its initial cost."

This is interesting because it is a fact.

Write for literature on Big Blast Hole Drilling

The Sanderson Cyclone Drill Co.
Orrville, Ohio

BRODERICK & BASCOM ROPE CO.

SAINT LOUIS, MO.

Manufacturers of

B. & B. WIRE ROPE

AND

Aerial Tramways
For Economical Haulage



A28

Harry Scullin, president of the Scullin Steel Co., 6700 Manchester Avenue, announced that plans have been definitely concluded for the erection of a steel rolling mill to cost approximately from \$20,000,000 to \$25,000,000. Ground already has been broken for the first building, which will cost \$2,000,000, with a monthly capacity of 10,000 tons of finished material, and will employ more than 2,000 men. According to reports, the contract for the first building has been awarded. The mill will be located on Knox Avenue between the Frisco and Missouri Pacific tracks, and is in the same district with a number of brick manufacturing plants. All the buildings of the Scullin plant will be of brick, as will be those of the United Drug Co. The launching of these two projects is regarded as an industrial triumph for St. Louis, especially coming so soon after the bringing of the \$5,000,000 plant of the General Motors Co., of Detroit, to St. Louis.

A problem in building construction which deeply concerns manufacturers of brick and other clay products has arisen from the prohibition clause of the St. Louis building code, which holds that hollow tile may not be used as the principal construction material of buildings in St. Louis. Of recent months a demand for residences of hollow tile construction has been keen and many prospective builders have either abandoned their plans entirely or are delaying to see whether the obstacle can be overcome. In the opinion of St. Louisans familiar with the situation, city officials would favorably consider changing the building code to meet the demand as a great number of persons are selecting county sites in order that they may have homes constructed of hollow tile. There is some talk in building circles of taking legislative steps to permit the use of this material, both for the benefit of manufacturers and for the city. The city would benefit by having a great number of this type of homes erected that otherwise will be built in fashionable county subdivisions. It is believed that manufacturers will take the initiative in the matter and that before many months a definite move to have the clause changed will be under way.

While interest in a united effort among manufacturers, contractors and real estate men to stimulate building on a large scale has completely flickered out, St. Louis may be launched into intensified construction thru dire necessity. The housing condition in that city, according to a review based on the opinion of men familiar with the situation, threatens to become a replica of that in New York within six months. Up to the present, city officials have made a move to offset the seemingly inevitable conditions. St. Louis has been given more than her quota of large industrial plants, several of which will be in operation within six months and will bring several thousand persons to the city. Already it is almost an impossibility to find a flat or apartment without encountering almost forbidden rents and other obstacles. Agents' rental lists average only about 35 per cent. of what they were before the war and, while there has been no generally noticeable increase in rents since the armistice was signed, they are from 25 to 35 per cent. higher than they were two years ago. Practically all building in St. Louis during the war and since hostilities ceased has been confined entirely to fine apartments, mostly of the hotel-apartment type, which were all leased by wealthy people almost before the buildings were completed. This tendency in building has made old residences more valuable and building permits for altering or remodeling this type of dwelling daily outnumber permits for new construction work. Persons whose incomes were increased by record wages during the war will not return to the abodes they previously occupied and second-class tenements are therefore vacant. Builders believe how-

ever, that St. Louis has made more progress in building since the end of the war than most other large cities.

New Jersey

Face brick and other burned clay products are coming around in fine style in New Jersey. The demand for good face brick of desirable shades is growing pronounced, and there is no question but that many calls are leading to good-sized orders. Prices hold up well, averaging from \$40 to \$50 and a little higher in different cities in the state. Fire brick is also maintaining good interest and there is little or no price fluctuation worth recording, good grade material is selling from \$68 to \$80 according to location. Hollow tile is moving, with prices holding the same as during the past few weeks, or from \$100 per thousand upward, delivered on the job.

The Hackensack brick yards are coming along in encouraging fashion. Manufacturing is well under way and there is no evident intention of diminishing production while demand as now prevailing continues. Practically all of the plants are operating and making the most of the good weather of the past few weeks. Considerable Hackensack brick is now seen at Newark, Paterson, Passaic and other points in northern New Jersey. At Newark, brick from the yard of Henry Gardner, Little Ferry, is being used in the construction of the new plant for the American Oil & Supply Co. The prevailing price at the Hackensack yards is around \$15 per thousand.

In speaking of prevailing costs for building materials, as well as conditions as now found, E. J. Maier, of Louis Schlesinger, Inc., one of the leading realty concerns at Newark, N. J., expresses the opinion that there will be no great permanent drop in material prices or labor; while minor decreases may arise, a new high level will gradually establish itself, on the whole. High prices, it is set forth, represent a relative scarcity whether brought about by a lack of production or by abnormal drains for war or out of the country shipments. With conditions and outlook as now evidenced, it is pointed out that those who wish to succeed should go ahead with their building projects and not allow themselves to be held back by present prices. Those who have the insight to see the situation and to act upon it will win.

To know how things are moving in the vicinity of Plainfield, N. J., one has only to spend a few moments with J. D. Loizeaux, vice-president and treasurer of the J. D. Loizeaux Lumber Co., with two large building material yards in this city. The company name hardly does justice to the wide variety of products handled, including brick and masons' materials of all kinds; and hollow tile, drain tile, flue linings, fire clay, fire brick, etc. Mr. Loizeaux says that the demand for building materials of all kinds is growing by leaps and bounds, a positive return to good conditions in pre-war times under prevailing prices. He is now turning close to 200,000 common brick per month and with no let-up in sight. This company is of the opinion that before the season is over prices will show an increase. The stock of materials carried at these yards run from \$200,000 to \$300,000 in valuation. A fleet of nine motor trucks is operated and this number will soon be augmented.

In the Perth Amboy, N. J. district, things in the ceramic lines are still quite quiet, altho there seems to be a general feeling that a change may soon take place. At the different clay mines, there is not very much call for material—a little of the well-known plastic clay from this

Many plants have improved their ware, saved time and saved lots of fuel with a Price Pyrometer.

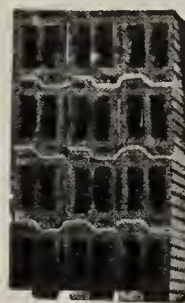
Any one of these savings justify a Price Pyrometer on your kilns.

We want to tell you more about them. Write us today.

The Price Electric Co.

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Price Pyrometers



"LOXALL" Popular Hollow Tile

is being licensed to manufacturers in the U. S. A. and Canada. It has earned the title of "Popular Tile" because it is easy to make, lay and sell, and is liked by the

Builder, the Mason and the Manufacturer.

If you are interested in this money making proposition, get in touch with us at once.

J. E. EXNER 507 Spruce Street, E.
Coffeyville, Kan.

A Tank You Can Trust

You don't have to keep your eye on a Caldwell Cypress Tank. You need have no fear of breakage or leaks. It's like a good workman—on the job and giving honest service every day in the year.

Because the Caldwell Tank is built of the highest grade materials according to engineering principles by experienced tank builders who realize that a good tank is more than a carpenter's job. As a guarantee against leakage, every joint is machine-planed with full bearing and the hoops are spaced so that no hoop is over-stressed.

Send for Catalogue

W. E. CALDWELL CO., Inc.

2380 Brook St. Louisville, Ky.



Caldwell
TANKS
AND
TOWERS

They Do Produce Results

We refer to

Those little ads you have noticed in our Classified Ad Pages.

It is the decision of concerns who have used them. Try one.

Brick and Clay Record

We Can Save You Time, Money and Trouble on Fire Brick

BECAUSE OF

Quality, Price and Service

Freight Rates on all R.R.'s in UNITED STATES and CANADA

A Trial Shipment Will Convince You. Write Us

ALSEY BRICK & TILE COMPANY
ALSEY, ILL.

Improve Your Burning

The Burner can, and does make the balance on either the right or wrong side of the ledger. It is a mistake to let a green, unskilled man handle the kilns, as is done on many brick plants. My 30 years of actual, practical experience in handling all kinds of kilns and burning almost everything made of clay or shale enables me to boost the profit side of your ledger.

Correspondence is freely invited.

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Pyrometer Expert and Kiln Specialist

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Trial Burns

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"Good as Ever" after 2½ years' service

On September 7, 1916, we shipped some of our No. 18 Union Steel Chain Belting, which operates on standard No. 88 sprockets, to the Haviland Clay Works, Haviland, Ohio. On March 5, 1919, we shipped them new pins for this chain, and have just received their letter, stating:

"We received the pins and cotter pins, and after re-pinning the chain, in use so many months, it gives as good service as ever. Your chain fills our needs exactly."

Write us for details which show how these Trouble Proof chains can fill your needs exactly.

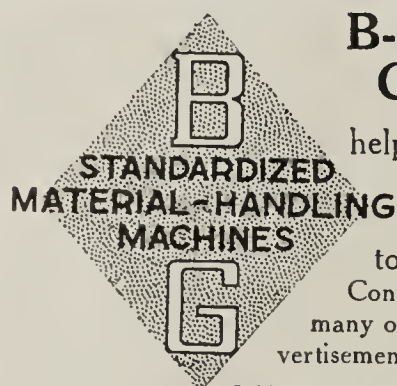
THE UNION CHAIN & MFG. CO. Seville, Ohio

section is moving, surely, but not the way that clay miners like to see things hum. The finer ceramic plants, as floor and wall tile, sanitary earthenware, etc., are still operating at reduced capacity, while the hollow tile and brick plants are coming along at a better pace. Hollow tile, f. o. b. factory at this location, in carload lots, is being quoted at 16 cents per block, 6x12x12 inches; 19.5 cents for 8x12x12; 22.7 cents for 10x12x12; and 29.2 cents for 12x12x12 inches, at the present time. There is a movement under way to develop considerable public building at South Amboy, and with this successful, as now anticipated, involving several million dollars, it is likely that neighboring communities will follow this lead and "start something" to awaken interest.

The Bloomfield Clay Co., Metuchen, N. J., is mining its well-known clays at considerably reduced capacity at the present time. While a few inquiries are being received for material, the demand is nothing like it should be and hopes are expressed that better business will soon be prevalent. The company, with its usual enterprise, has made ready for active production as soon as the call comes, and things in this connection are in fine shape; a new hollow tile office building has recently been completed. Charles A. Bloomfield, head of this company and its guiding spirit, is just recovering from a severe spell of illness which has kept him confined at Bloomfield Manor, his fine, old homestead, for some weeks past. Mr. Bloomfield, as chronicled in a recent issue of *Brick and Clay Record*, has just turned seventy years of age, but years, in volume, do not seem to mean anything to him when it comes to activity and enthusiasm for Jersey clays and the clay working industry as a whole. That Mr. Bloomfield's many friends hope to see him about soon, goes without saying.

"An unprecedented demand for brick and other building materials"—this is the remark that has greeted the eastern representative of *Brick and Clay Record* in all corners of New Jersey during the past fortnight—and undeniably, it is so. Brick manufacturers and dealers, mason material dealers, hollow tile interests, general building supply and lumber dealers almost with one accord voice this sentiment. The tide has turned with the coming of spring and summer, and construction work as we all want to see it, seems here to continue with no let-up for some time to come, at least, it certainly is not in sight now. Thruout the state, in every city of any account and surrounding territory, the movement is decidedly noticeable—at Newark, Trenton, Paterson, Jersey City, New Brunswick, Camden, Plainfield and the Jersey shore resorts, things are on the way; apartments, dwellings, factory and industrial buildings, schools and public structures of different kinds are being erected, and the demand for materials is coming strong. It is little wonder that those in the trade are taking a renewed interest in matters; after the long siege of enforced inactivity, they are surely entitled to share in such prosperity as may abound.

Prices of brick and other important building materials show no indication of change in different cities of New Jersey. Whether the demand is tending to hold quotations firm, or otherwise, they are evidently where they are to stay for some time to come. The trend, if anything, is towards a higher level, and it would not be surprising if an advance was evidenced in certain commodities before the summer has passed. Brick, while fairly plentiful, is not so much so as to make second-hand material entirely undesirable, with the result that brick of this latter

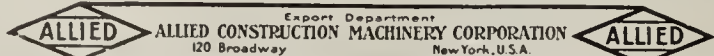


B-G PORTABLE CONVEYORS

helped the Superior Sand Co., of New Lexington, Ohio, to cut their handling costs from 10c to ½c per ton of sand. B-G Conveyors perform equally as well for many others. Watch for our full page advertisements in the FIRST ISSUE of each month.

BARBER-GREENE CO., 515 W. Park Ave., Aurora, Ill.

Branch Sales Offices in Principal Cities



nature is frequently being used on different jobs, particularly for interior walls or unexposed work. The price at Newark is \$19.50 per thousand for good hard common, showing no change whatever for months past; at Paterson and vicinity, the price holds around \$18, with closely similar quotation at Jersey City and surrounding section; at New Brunswick, \$19 is being quoted, while further to the south, at Atlantic City, a price of over \$20 is still prevailing; at Trenton, the figure is around \$15. These are "delivered on the job" prices.

To show the trend of important construction work in different parts of New Jersey, some of the projects now under way or about to be inaugurated are particularly interesting: At New Brunswick, bids have been taken for a new three-story and basement junior high school on Livingston Avenue, to cost \$400,000, face brick and hollow tile will be used in the structure; Leland H. Ross has commenced the construction of a new residence on Madison Avenue, Madison, to cost \$125,000; the First National Bank, Woodbury, is taking bids for a two-story banking building, to cost \$125,000; the American Chemical & Manufacturing Co., New York, is considering the erection of a new brick plant in the vicinity of Perth Amboy, to cost \$400,000; a new twenty-one-family apartment house at Newark, will be erected by the D. K. Construction Co., at a cost of \$70,000, using brick and limestone in construction; and a new brick theater in the same city, on Broad Street, to cost \$200,000, is planned by a New York interest.

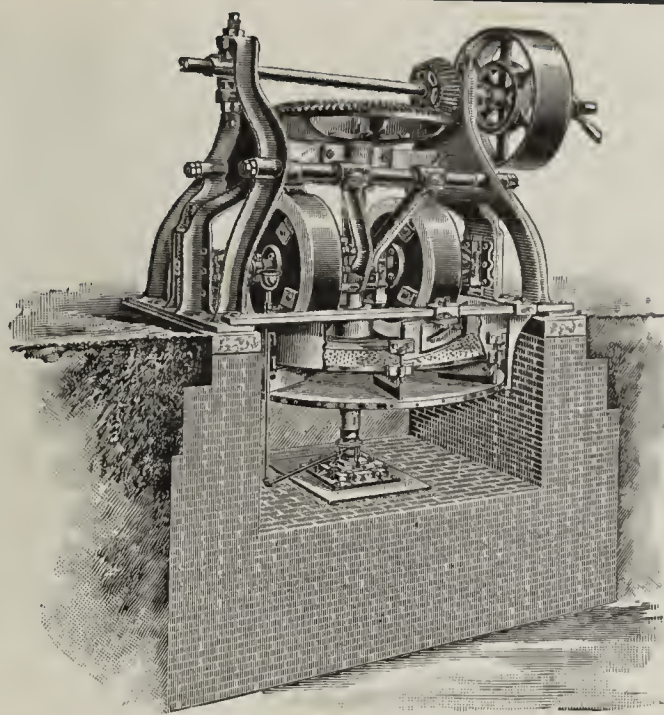
Newark is picking up in building work in a fine way, the gain from week to week in the volume of permits filed and the estimated valuation is distinctly noticeable. The month of May, just passed, shows totals more than double of those for the corresponding month of last year; during this month the permits aggregated 332, as against 204 for 1918, with estimated costs placed at \$1,414,671 and \$677,828, respectively. The figures for this month are not only greater than those for May of last year, but in excess of any May construction work in the city since 1913, and this proves conclusively a return to pre-war conditions in building volume. A little review is enlightening in showing this trend of affairs—in May, 1913, the total estimated cost of construction work was \$1,683,705; during the next few years, or 1914, 1915 and 1916, the average ranged around \$800,000 and \$900,000; in 1917, it rose to \$1,131,410, with the demands for war buildings, dropping back to the figure noted in 1918. Still another interesting statistical fact is found in the totals for the first five months of the present year: with the heavy gains in April and May, the aggregate is almost \$1,000,000 above that for the corresponding period for 1918, or \$3,351,521 as against \$2,590,171. And the record is still continuing to climb.

New York

The King Refractories Co. has been incorporated at Buffalo, N. Y., with a capital of \$50,000, to manufacture and sell fire brick, high-temperature cements, etc. The directors are Sanford C. Smith and A. B. Templeton of New York and Earnest J. Eddy of Buffalo.

The Betson Plastic Fire Brick Co., Inc., recently incorporated at Rome, N. Y., has elected Frank J. Jewell as president and secretary, and Nelson Adams as vice-president and treasurer. The company's products are plastic fire brick for boiler furnace linings and baffle walls and hi-heat cement for use in the boiler room.

The majority of brick manufacturing plants in the Hud-



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STEAM PRESSES FOR MAKING

Sewer Pipe, Drain Tile, Hollow Blocks, etc.

All of the highest class designing and construction are manufactured by

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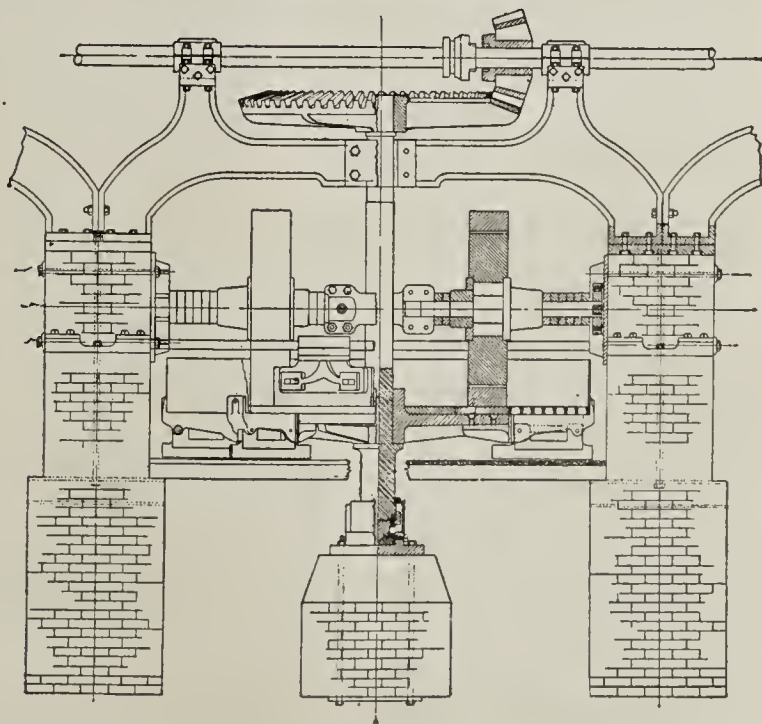
The "MEANS" 9 Ft. Dry Pan

is being chosen for the reduction of clay and shale by successful claymen because careful comparison with other makes, and records of their performance, show the "Means" to be the best.

Special features are the improved step and toe, and adjustable bearings.

In addition to dry pans we manufacture all equipment required in sewer pipe and tile plants, and our special goose-neck attachment for the sewer-pipe press affords a means of making brick directly from the press. Write us.

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Save Your Belts and Make Them Work

New belts never cost so much nor were so worth preserving, nor was there ever so much possible demand ahead for brick.

If you ever needed Cling-Surface you need it now. It is not a sticky belt dressing, but a real preservative for leather belts which will also do fine work on rubber belts. It keeps the leather and canvas belts pliable and water-proof, prevents cracking; it stops the slipping of all kinds so that they can run slack, pull full loads and last as long as you do.

Twenty-five or fifty pounds sent on approval. Pay if O. K. and not otherwise. Write us now.

Very truly yours,

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Results That Count

If you have a Proctor Dryer you get uniform results.

Proctor for All Clay
DRYERS Products.

The Proctor Dryer represents the most efficient and economical method of drying. It is absolutely constant in action regardless of outside weather. Compact. Dependable. Fireproof.

Made by the oldest and largest builders of dryers.

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son River district are now operating for the season's run, but at nothing like normal capacity. The big factor in the situation is labor, and manufacturers are finding it exceedingly difficult to secure workmen. With things opening up in construction circles, the producers, for the most part, look to the future with great encouragement, and with idea of a good volume of production. With labor, however, the way it is and so continuing, it is likely that the output for the year will be considerably reduced. A good number of barge loads are being shipped to the New York market, representing the spring burning of last season's manufacture.

The Greenpoint Fire Brick Co., Greenpoint section, Brooklyn, reports a large demand for fire brick at the present time with every indication of a continuance of the call. Moreover, the foreign market is showing considerable activity, with heavy demand for high-grade material from France and Belgium. While present prices have often been considered top-notch, Clarence Cooper, president of this company, looks for a further increase of not less than 5 per cent. next fall, due not only to demand, but to the fact that many concerns in other lines of the clay products industry which converted their plants from terra cotta and enamel brick manufacture, etc., to the production of this commodity during the war, are now returning to peace-time operations. This, naturally, reverts to the necessity for larger output by the regular fire brick manufacturers.

Prices of brick and burned clay building specialties, as well as other standard construction products, hold firm at New York. There is no thought these days, seemingly, of a recession to lower levels, but rather an expected occurrence of higher quotations. The fluctuations are immaterial to record, but it would not be astonishing to find an advance ensuing in certain lines before the summer is over. Common brick continues at \$15 per thousand for good hard common in wholesale lots, alongside dock. Good second-hand brick is obtainable at a price of \$15 per 1,500 brick load, delivered on the job. There are still no quotations on brick from the Raritan River section. Face brick is more than holding its own, with prices evidently where they are to stay; these range from \$37 per thousand for rough and smooth reds to \$46 upwards for rough and smooth grays. Colonial brick is bringing about \$25, delivered on the job. Face brick dealers look to the future with great encouragement; the number of inquiries, coupled with the volume of plans now being estimated, give evidence of the demand for the material that is now here and on the way. Production at the different plants, particularly in Pennsylvania, is keeping pace with the call and good stocks are available. A large quantity of the Pennsylvania output is used in the local market. There is no change in prices in hollow building tile in the city, 2x12x12-inch, split furring is selling for \$63.75 per thousand square feet, delivered, ranging to \$153 for 6x12x12-inch size.

Construction work at New York and vicinity is showing steady and substantial gains from week to week. There is every reason to look for a continuance in the growth and in all likelihood the summer of 1919 will round out as a "record breaker" in more respects than one. The activity in the building field is being reflected in the calls made for brick, hollow tile and other standard building material. Manufacturers and dealers are far more contented and with good reason, for the tide has turned in decidedly the right direction. Big work is abounding in the different boroughs, and Brooklyn seems bound

to take the lead in certain phases of construction, and barge load after barge load of brick is finding its way to this district. In the borough of Queens during May the applications for building permits were three times in volume those for the corresponding month of last year. In this month, 978 permits were asked with estimated construction cost of \$5,435,270 as against 313 permits with estimated valuation at \$1,571,465 for the corresponding period in 1918. As an idea of the character of the work, and extensive proportions, in this section, a few references are illuminating: The Jackson Heights Apartment Corporation has filed plans for 12 four-story brick apartments to accommodate 18 families each, with cost estimated at \$436,000, and for three four-story brick apartments, each to house 13 families, to cost \$171,000. The structures will be located in the Jackson Heights section. The White Co., manufacturer of automobiles, has had plans prepared for a two-story service building, of brick construction, at Thompson Avenue and School Street, Long Island City, about 200 by 419 feet, to cost about \$550,000.

Ohio

The Ohio Clay Products Co., of Uhrichsville, Ohio, has been incorporated with a capital of \$10,000, to manufacture brick and other clay products. The incorporators are: A. R. Ackerman, Thomas F. Turner, H. B. Webber, Gertrude Kellogg and Frank B. Melchior.

The common brick market in central Ohio territory is becoming more active. Quite a few common brick plants which have been idle for some time, have resumed operations and others are being put in shape for operation. On the whole, the demand for common brick is much better than has been the case for several months.

The Ohio Highway Commission will open bids June 16 for a number of road improvement projects. Among them are several in which brick is specified. In Huron County a stretch of 1.28 miles will be paved with monolithic brick. In Sandusky County brick is specified as alternate with several other kinds of paving.

The Madison Tile Co.'s plant, London, Ohio, under the management of Samuel Van Cleve, is undergoing some extensive improvements. A new office building is nearly completed, new boiler has been installed and the factory building will be enlarged. When all the contemplated improvements are completed, it is reported the plant will be one of the largest and most up-to-date tile factories in the state.

The Universal Clay Products Co. has been incorporated at Columbus, Ohio, for \$100,000. The company recently purchased the plant of the Asher Cooperage Co. and machinery will soon arrive for the production of clay products, and the contract for the kilns will then be let. Manager Frey has been in Parkersburg, W. Va., in conference with J. H. Parker, head of the company, and upon his return, work will go speedily forward at the Sandusky plant. It was originally planned to call this company the American Clay Products Co., then the United States Clay Products Co., but the Universal Clay Products Co. has been definitely decided upon.

Home building in Columbus is progressing satisfactorily according to reports from the city building department. In fact, all kinds of construction work shows big increases in comparison with previous years. Prospects are good for a continuation of the active building and brick and material men are preparing for a good steady business during

Stanley Belting

For Regular, Economical Service

Stanley Solid Woven Cotton Belting is preferred in many brick plants because it delivers the maximum service per unit horsepower. It performs this unusual service regularly, continuously.

Because of its special construction, it doesn't buckle and tear the inner and stretch the outer surface of the belt to the breaking point. It is absolutely waterproof. No stretching on rainy days. No tightening in dry weather. It outlasts rubber and costs less than leather. Unaffected by heat, oil, acid, dust and grit. No plies, stitches or laps to come apart.

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32-40 South Clinton St.

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Sizes from 1/2 to 42 in.

You can get a higher price for your brick if you guarantee it will be

Scum-Proof

And you can do this with perfect safety by using

R. H. Precipitated Carbonate of Barytes

It neutralizes the salt in your clay so that it cannot appear on the surface of the brick after it gets wet.

But don't accept a substitute—insist on R. H.—the dependable brand.

Write for circular and prices.

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We carry a complete line of high grade chemicals for the clay industry



Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO

the remainder of the summer and fall. According to the building department during May there were 365 permits issued for buildings valued at \$509,375 as compared with 231 permits and a valuation of \$242,075 in May, 1918. During the first five months of the year the department issued 1,324 permits, having a valuation of \$2,071,080, as compared with 577 permits and a valuation of \$1,298,170 in the corresponding period in 1918. Taking the permits and analyzing them it is noted that during May, 1919, permits were issued for 92 new dwellings as against 24 permits in May of last year, and 64 in May of 1917. Inspector Dauben claims that the Columbus "Own Your Own Home" campaign is bringing fruit and that he has noted quite an increase in dwelling and apartment building since the campaign has been underway.

Secretary of Labor Wilson in a recent address in Columbus, urged people to start building homes and other structures now as prices on materials were not likely to be reduced to any great extent. Among other things, he said: "We have urged the 'Own Your Own Home' campaign because we believe that our institutions can best be preserved by the people who have their patriotism rooted in the soil. Building operations were at a standstill during the war and not very active for several years prior. As a consequence there is a great shortage of homes and we believe that this condition can best be relieved by the 'Build Your Home' campaign. The more rapid the shortage is relieved the quicker we will get back to normal. Increases in rents raises the cost of living generally. Shortage of building increases rents. In my judgment the man who is waiting for the price of materials to decline and labor to be cheaper is making a mistake. War times have brought us new price levels. Wages have increased 80 per cent. and are not likely to be decreased because there is going to be a great industrial activity and a good demand for labor. Materials may decrease some, but not to any great extent."

Oregon

Incorporation papers of the Molalla Fire Clay Co. were filed recently by H. H. Dailey, H. C. Colton, B. F. Simsheimer and P. M. Boyles, directors of the new company. The main office of the company, which is now at Molalla, will be moved to Portland soon. The capital stock of the company is \$100,000. The name of the company has been changed from the Dailey Clay Products Co. to the above name.

The organization of a new company, the H. H. Daily Clay Products Co., of Portland, Ore., which will mine and ship pottery clay from Oregon, has been reported. It is stated that their clay has been carefully tested and found equal to the best grades of English china clay. The deposit is located at Mollala, Clackamas County, near the line of the Southern Pacific Railroad, within 50 miles of Portland. The tentative plans call for the building of a railroad spur to the deposit by the Southern Pacific, the installation of loading facilities at the railroad terminal, and transportation by the Pacific Steamship Co. by water to New York. It is further proposed to time the railroad shipments so that the clay may be loaded into ships directly from the cars without delay.

Construction work in Bend, Ore., is rapidly forging ahead. A large Catholic church is about to be erected in this city, which will require 300,000 brick and it is said will be one of the most beautiful Catholic churches in the state. A new building on Wall Street, to house the

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Canton Rocking and Dumping Grates in your plant mean a large saving in fuel, or a greatly increased production with the same amount of fuel. By improving combustion, they make a coal saving of at least 10% in comparison with stationary grates. Peak loads can be maintained easily.

If you are interested in cutting down fuel cost and improving combustion, write for Bulletin B, Form 14.

Canton Grate Co.,
1706 Woodland Ave., N. W.
CANTON OHIO

**CANTON GRATES SAVE FUEL
FOR BOILERS FOR KILNS**

postoffice, is to be ready for occupancy by August 15. This building, when completed, will represent an investment of about \$20,000. It will be wholly of brick, requiring about 150,000 brick, and will be two stories—the upper floor to be divided into six three-room apartments. Work is to begin at once on the erection of a modern one-story brick building on the southwest corner of Wall and Minnesota Streets, just south of the Sather Building, which will require about 150,000 brick, and will cost approximately \$12,000.

Pennsylvania

The Pennsylvania Clay Products Co., Wilkes-Barre, Pa., a Delaware corporation, has filed notice of change in name to the Wilkes-Barre Clay Products Co.

The Oil City Silica Sand Co., Oil City, Pa., has been incorporated in Delaware with a capital of \$300,000 to mine and produce silica sand in this district. The incorporators are George C. Magee and Albert W. Kauffman.

It has been reported that plans for the building of a new fire brick plant in Cambria County are being made by the Hawes Refractories Co., of Johnstown, Pa. The plant will be located on a 2,000-acre tract and will have a capacity of 100,000 brick daily. It is expected 300 men will be employed. Ground for the new structure will be broken July 1.

The Master Builders' Exchange in cooperation with the Allied Building Trades has arranged a satisfactory adjustment in the scale of wages for different classes of labor in construction work. While the result will not go to decrease the present cost of building, it is believed that it will be a big step towards stabilizing the industry as a whole. Members of the Master Builders' Exchange in close touch with the situation do not believe that there will be any decline in construction costs, either labor or materials, for some time to come; on the contrary, it is pointed out that it is far more likely to predict an increase in present costs, judging from a review of conditions during the past 20 years. It is said that those who are waiting for prices to drop are almost certain to wait in vain.

William Conway, Philadelphia, Pa., operating a brick plant at Fifty-eighth and Walnut Streets, reports business as showing a gradual improvement in line with increased demand, with call for material fairly good at the present time. It is pointed out that thru cooperation among the local brick men and building material dealers, prices for brick in Philadelphia, as well as other building supplies, have been reduced since the close of the war. While this reduction in different instances has been slight, it indicates the commendable spirit actuating those in the trade to encourage a building movement—and now that the building movement is actually here, the results thru denying themselves profits are all the more manifest to the participants.

Brick and other burned clay products are coming more and more into their own in the Philadelphia district. Good common brick shows no change in price, selling for about \$17 per thousand, delivered; salmon brick is available at \$14 and \$15 per thousand. The demand for face brick is becoming more pronounced, and high prices are prevailing for first grade material; current quotations, f. o. b. cars, city, in carload lots of not less than 10,000 brick, range from \$35 to \$42.50, with proportionate increase for dealers' profits and delivery on the job. White

One of the five ERIE Shovels owned by the Cable Company, Canton, O. Digging a very hard shale, 630 cu. yds. per 9-hr. day.

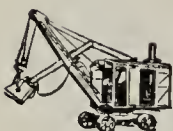


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more reliable;
wider range;
speedier!"**

"The ERIE is the best steam shovel on the market today. We have operated two other makes of shovels, but the ERIE is stronger built, more reliable, has a greater range of action, and is much speedier than any other machine of its size.

"We have averaged 630 cu. yds. of hard shale per day of 9 hours."

—A. B. Cable, Pres., the CABLE CO., Canton, Ohio, owners of 5 ERIES digging shale for clay products.



When necessary, the ERIE shovel can be operated very rapidly, to produce a big output. This extra capacity does not cost you anything—it is "velvet." Investigate the ERIE Shovel. Write for a copy of Bulletin B.

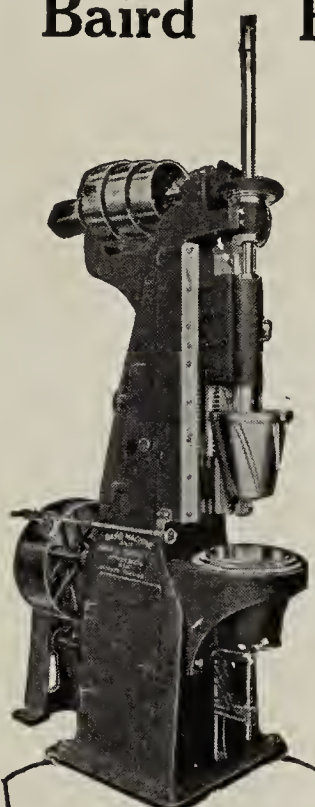
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Flower Pots
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One of these machines installed near the clay bin or pug mill can easily be turned into a money maker.

Any man in the machinery or grinding room can operate it. He can do this while waiting for repairs to be made in another part of the plant, thereby turning lost time into profit.

Machine is adaptable to Flower Pots, Stone Ware, Crucibles, etc. Users assure us that it more than meets their requirements for quality and quantity production.

Send us a sample of your clay at once, and learn the possibilities of these machines. You will be surprised with the results. Write today to

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Gate Valves, too, have the Jenkins "Diamond Mark"

The man of experience looks for the "Diamond Mark" on Gate Valves, too. He knows Jenkins Valves are "trouble-free" and dependable in the line of duty.

There is a comprehensive line of Jenkins Gate Valves. Made of Brass, Iron or Cast Steel in every required size for steam, water, chemicals and other liquids.

Jenkins Valve construction benefits by over 50 years of practical experience. There is only one way to get the RIGHT valve for the RIGHT purpose—make sure of the Jenkins "Diamond Mark" (on the body of all Jenkins Valves).

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Rollin's Barium Carbonate

"We find that the use of Barium not only entirely eliminates the scum caused by sulphates, but deeper and richer colors result than would be expected." So writes a clay products company in Kentucky.

It is obvious to any clay products manufacturer that Barium Carbonate added to the pug mill or to the dry pan will produce brick and tile that command a higher price. It will build up more business than an inferior product which is "off color" and marred by white streaks.

Barium Carbonate makes the salt glaze stick to sewer pipe.

We can show you how the appearance of your ware can be improved, and can give you names of clay concerns who are profiting today by the use of Barium.

Write Us NOW

The Rollin Chemical Co.

(Inc.)

Charleston, W. Va.

enamel brick, American size, is selling for around \$100, and English size, \$125. Good grade fire brick is bringing around \$70 per thousand. Hollow tile is operating under fair demand, with prices holding decidedly firm.

The spirit that "now is the time to build" seems to be taking hold at Philadelphia and outlying sections. Considerable new work is on the way, and while the volume of actual contracts placed, as well as the amount involved, could and should be greater, there is an air of confidence among those in the trade. Construction work in the city during the month of May showed substantial gains, with about \$1,000,000 increase over the month of April; moreover, the building work in this single month is almost equal to that of five months in the year past. In May 1,079 permits were issued, with estimated valuation of construction work at \$5,960,140. The demand for housing has led to considerable building work in this line, and 839 building permits were taken out for two and three-story dwellings in the month noted. It is currently reported that over 20,000 families are short of homes in this district. Some of the important public work now under way in this vicinity includes a three-story art gallery, of brick and stone, on Green Street, Fairmont Park, to cost \$2,000,000; a one-story addition to the Church of the Ascension, Broad and South Streets, to cost \$150,000 and a three-story brick and stone synagogue, at Broad Street and Bellfield Avenue, for the Beth Shalom Congregation, to cost about \$100,000.

Texas

One of the notable and most attractive features of El Paso, Tex., is buildings of brick construction. It contains more residences and business buildings built of brick than any city in Texas. In order to meet the increasing demand for homes, R. A. Whitlock, of the El Paso Lumber Co., has contracted for the erection of 31 residences of the bungalow type to cost a total of \$175,000. All of these residences will be of brick construction. Many other brick buildings are being built in the city at this time.

Utah

The National Bank of the Republic, Salt Lake City, Utah, is planning a 12-story building and has purchased additional property. The estimated cost of the project is \$500,000.

The property of the old Provo Pressed Brick Co., of Provo, Utah, has been leased by a new company to be known as the Provo Brick & Tile Co. Jesse Curtis will be general manager, Frank Dyson, assistant manager and James Clayton, secretary and treasurer. These men are all former employees of the Provo Pressed Brick Co.

J. A. Spiker, former inspector for the Utah Fire Clay Co. is now in the East for the purpose of gathering data preparatory to erecting a large fire clay plant in Salt Lake City. He plans to have the plant in operation in time to provide drain tile for the new drainage districts, which include four in Millard and one in Sanpete counties.

An ordinance amending a revised ordinance of Salt Lake City, relating to buildings, was passed by the board of commissioners on May 19, amended section 274 of which reads as follows: "Class 'B' buildings are defined as those having a frame reinforced concrete carrying all wall and floor loads. All structural parts shall be of combustible material. Walls shall be of brick, stone or reinforced concrete. The maximum limit of height of

class 'B' buildings shall be 125 feet, and they may be built anywhere in the city."

West Virginia

The Saunders Clay Products Co., of St. Albans, W. Va., has been incorporated to operate in Kanawha County. Its capital stock is \$5,000. The incorporators are: A. M. D. Hersberger, F. B. Bowen, of Clendenin; T. G. Saunders, of St. Albans; B. L. Honham and Karl Henderson, of Charleston.

Wyoming

Machinery is now being installed and it is expected that the actual process of making brick will commence very soon at the plant of the Riverton (Wyo.) Brick & Tile Co., a new concern being financed and promoted by local people. H. S. Goss has been engaged as superintendent of the plant. The new company has contracts in sight which will require 2,000,000 brick.

Canada

Wm. Loomis, brick manufacturer, Sherbrooke, P. Q., has suffered a fire loss.

Wm. Thompson, brick and tile manufacturer, Essex, Ont., has assigned to C. A. Anderson.

Thos. Kennedy, Dominion Sewer Pipe Co., Swansea, Ont., was a recent visitor in Philadelphia.

The new officers of the National Brick Co., of La-prairie, Limited, Montreal, are as follows: H. T. Trenholme, president; R. N. Ballantyne, vice-president; and A. T. Alexander, secretary.

Canadian Ceramics, Ltd., Toronto, Ont., has been incorporated with a capital of \$40,000 by Wm. A. Brock, E. C. Clubine, C. W. Gibbons and others to manufacture and deal in pottery and earthenware, etc.

Nubrik Products, Ltd., Toronto, Ont., has been incorporated with a capital of \$100,000 by John Campbell, W. J. McCoy, W. Graham, A. H. Neely, H. R. Hollingshead and others, to manufacture and deal in pottery, brick, etc.

The Toronto Sewer Pipe Co., Limited, Toronto, Ont., has been incorporated with a capital of \$100,000 to manufacture and deal in sewer pipe, drain tile, brick and terra cotta. The provisional directors are Grant Cooper and H. A. Hall, barristers and Lilian M. Heal, accountant.

D. Clark, of the Alberta Brick Co., Ltd., Edmonton, Alta., is demonstrating a new system he has patented for heating and ventilating cars for the transportation of perishable goods. He has applied the principle of the dryer to this with good results. Great interest has been shown in the invention and cars on two western railways have tried it out to their satisfaction.

A. E. Hilder, who is managing a hollow-ware plant in Southern Manitoba and has offices in Winnipeg, claims that moderate priced, five-room cottages can be built with hollow tile for \$2,000. He estimates that a 30 foot lot will not cost more than \$400 or \$500 and the price of this house is dependent upon: (1) the house would be erected by the manufacturers of building material; (2) the houses would be built in large numbers together where 20 or 25 per cent. would be saved on work, inspection and haulage of materials; (3) the houses should be built comparatively near the hollow tile manufacturing plant.

Perforated Steel Screens

Of Every Description

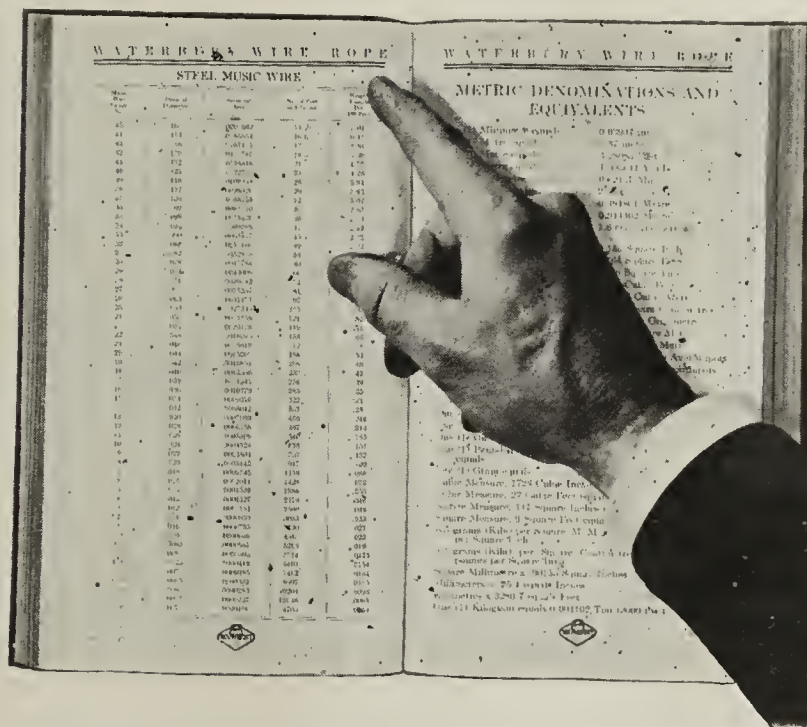
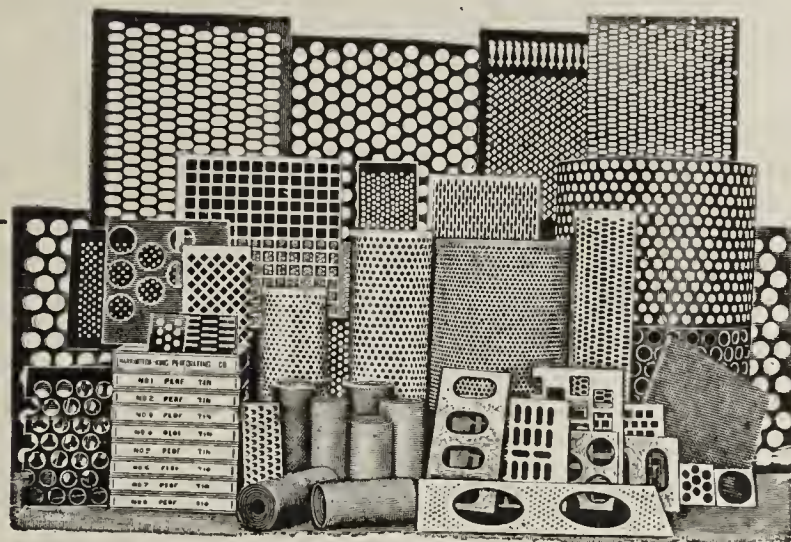
For Screening Clay, Shale, Sand,
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No Other Screens Will Give You Equal Capacity,
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*The Waterbury Rope Handbook is not only a complete manual on all kinds of rope, but also contains a section on music spring wire—tables and other data. Ask for a free copy. It will be mailed promptly.



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Fifty years ago started its journey
through life,
Putting an end to pump worries
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It needs no attention, care or oils,
Just feeding on steam it unceas-
ingly toils.

Hung to a wall, slapped to a beam,
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It "pitches in" and pulses and
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One job done, it's uncoupled in a
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Ready again to drain off a lake.
It's a "bear" on work—a profit
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There's no other pump can touch
a pulsometer.

***This owner has a happy way
of singing the praises of his
Pulsometer---***



We received the above "dittie" from an owner down in Indiana—guess he's one of those Hoosiers who do a little "poeming" now and then. We admit that his star in the "constellation of poetical satellites" isn't very bright, but, nevertheless his little ode surely tells the truth about the Pulsometer.

—and if you've got a pumping job that's mean to get at, or if you have to "hike" over "Hell's Half-Acre" to the next job, the easy rigging of a Pulsometer and its light weight mean money in your pocket.

Pulsometer Steam Pump Co.

Executive Offices: 224 W. 42nd Street, New York City

Agencies in all the principal cities

Boston: 391 Atlantic Avenue
Hattiesburg, Miss.: Care of J. L.
Welborn
Philadelphia, Pa.: 235 Commer-
cial Trust Bldg.
San Francisco, Calif.: 139 Town-
send Street

Cincinnati, Ohio: Elm and Pearl
Streets
Minneapolis, Minn.: 400 Temple
Court.
Milwaukee, Wis., 206 Wells
Street
Cleveland, Ohio: 1227 West
Ninth Street

QUESTIONS

A Three Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

*Address all communications intended for this department
to "Editor Questions and Answers," care of "Brick and Clay
Record," Chicago.*

The Weight of a Cubic Yard of Shale

912. Kentucky—Can you tell me what the weight per cubic yard of ordinary shale is usually figured to be?

The weight of a cubic yard of ordinary shale varies from 4,041 to 4,714 pounds. Furthermore, in general it requires about two-thirds of a cubic yard of shale to make a thousand ordinary common brick.

✻ ✻ ✻

Suggests Investigation of Oil Cost

In the May 20 issue of *Brick and Clay Record* on page 912 there appeared the following question, No. 907 Oklahoma:

"We are on a deal for a brick plant that is equipped to burn oil in its kilns. Oil costs \$2.25 a barrel f.o.b. plant, and coal costs \$4.50 a ton f.o.b. plant. From the standpoint of relative heating values of the two fuels, what is the difference in cost? We would be glad to have you give us some information concerning these two fuels.

Inasmuch as you do not give us the relative heating values of the coal and oil you have in mind, we will have to make certain assumptions as to the thermal capacities of these two fuels. The calculations given below are based on oil costing \$2.25 a barrel, having a heat value of 20,000 B. t. u. per pound, and one barrel containing 310 pounds of oil. Government figures show that an Oklahoma mine run coal analyzes about 13,000 B. t. u. per pound hence this figure is used in the calculations also. The coal costs \$4.50 per ton.

Using the above figures, it will be seen that 20,000 times 310 will give you the number of B. t. u. in a barrel of oil and this quantity divided by 225 will give the number of B. t. u. received from one cent by using oil of the above quality and price. This value will be found to equal approximately 28,000 British thermal units for one cent.

Now by taking the data on coal we find that 13,000 times 2,000 will give you the number of B. t. u. in a ton of coal and this divided by 450 will give you the number of B. t. u. received for one cent by using coal under the conditions given above. This is equal to approximately 60,000 British thermal units for one cent. From a comparison of these two values it will be seen that you will be getting about twice as much heat for the same cost by using coal instead of oil. That is, the ratio is 60,000 to 28,000 in favor of coal considered from a standpoint of heat received for an equal expenditure of money.

There are, however, several advantages in using oil for burning clay products. There is no cleaning of fires, no handling of fuel, no removal of ashes, and no soot and dust. It has been found possible on some plants by in-

a n d ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

stalling the oil system of burning to reduce the number of men in the ratio of seven to two.

Oil can be stored in fifty per cent. of the space required for coal and ten per cent. of the space required for cord wood of equal heating value. The ease and quickness of oil burning over that of coal and wood gives a possibility of more even control of temperature. Due to a more equal control of heat in each fire box, there seems to be no localization of intense heat in one spot.

Due to the easy control of the burners, oxidizing and reducing conditions in the kiln can be produced at will, and changes from one condition to the other can be obtained on shorter intervals than with coal.

Since publishing the above we have received a letter from Mr. Donald Vincent, secretary and treasurer of the Vincent Clay Products Co., Fort Dodge, Iowa, in which he supplies the following information:

"Just a suggestion in answer to No. 907 Oklahoma, in your issue of May 30. The information given you was for oil costing \$2.25 per barrel, f. o. b. plant. We are wondering whether this quotation is on crude oil or fuel oil. The latter article, 24/26 specific gravity should cost 75 to 80 cents a barrel on present market at Oklahoma. The freight cost to the plant in question must, of course, be added. We use fuel oil and obtain very good results. If the Oklahoma inquiry is based on crude oil we would suggest that a comparative cost on fuel oil be investigated."



Is Damper Better Than Cold Air?

913. Georgia—If you have some data in regard to stack draft for round down-draft kilns I would be pleased to receive some information on the following questions: What is the usual height of stack and the area of same for periodical down-draft kilns, thirty and thirty-two feet in diameter with ten fire boxes?

Do you advise an independent stack for each kiln or how many kilns can you connect to one stack and obtain good burning results? When a kiln is at settling heat will an intake of cold air in the stack give as good results and be as satisfactory as the use of a damper?

You will find considerable data on stack theory and construction by referring to the "Superintendent" department of the January 1, 1918, issue of *Brick and Clay Record*. However, the answer to your first question is that the usual height of a stack for a periodical down-draft kiln is about thirty-five to forty feet.

According to Greaves-Walker, a single stack type of kiln should have one square foot of cross sectional stack area for each eleven square feet of grate area. Another authority has stated that the area of the stack flue should



You Can Trust TRADE **SAWYER** MARK Registered

Where the service is hardest in your Brick Plant.

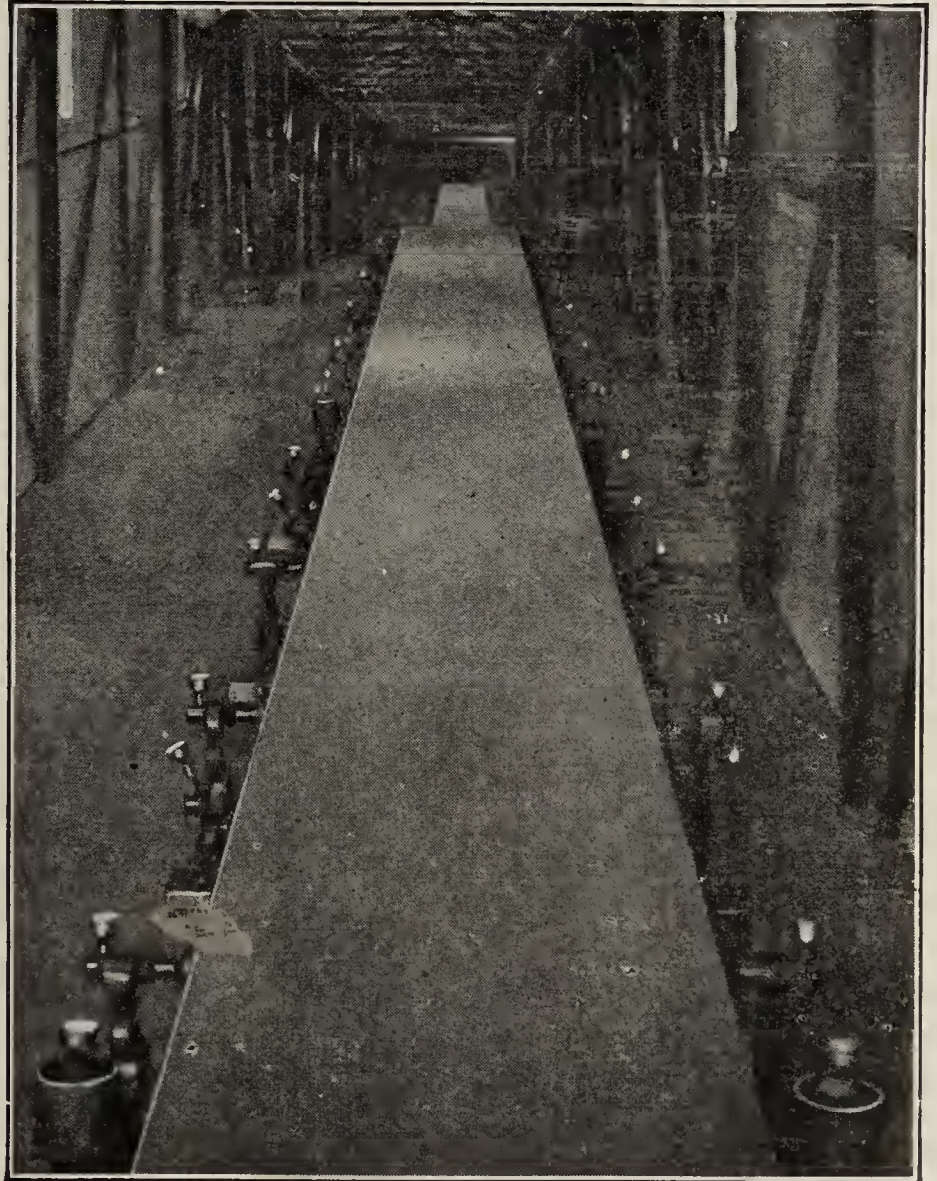
This stitched canvas belting more than meets the modern brickman's demand for efficient transmission, conveyor and elevator service.

It is backed by 30 years of experience in Brick and Clay Plants.

Specify SAWYER.

United States Rubber Company

MECHANICAL GOODS DIVISION



"The S S S Special" Automatic Soft Mud Brick Machine



The "S S S Special" is the ONLY Automatic Soft Mud Brick Machine. It is Brick Machine, Bumper, Dumper, and Sander, all combined in one Great Machine.

**It Saves Labor and
Improves Your Product**

The "S S S Special" means
Improvement Advancement Progress

The Arnold-Creager Co.
New London, Ohio

equal in square inches the area of the kiln floor in square feet.

In regard to the number of kilns to be connected to one stack, Greaves-Walker has recommended that one stack should be built to serve two or four kilns. There is a difference in opinion as to the number of kilns it is advisable to connect up with one stack, but we know of instances where excellent results are obtained where as many as six or more kilns are connected to one single stack. In this connection, however, it seems that all of these kilns should be connected with a main flue which communicates with the stack. The stack should be tapped at one place only since there seems to be difficulty when two flues enter one stack.

In regard to your last question, we are inclined to believe that the damper would be much more satisfactory than the use of cold air in the stack to check the draft when the kiln is at settling heat.



New Citation for Some Employers

The following statement is issued by Grosvenor B. Clarkson, director of the United States Council of National Defense:

"The War and Navy Departments having issued a citation to employers who give assurance that they will gladly take back their old employees who have served in the armed forces of the United States, it seems fitting that some symbol representing this attitude on their part should be placed upon the service flag.

"The United States Council of National Defense, therefore, endorses the placing of the United States shield upon the red border, but no names of individuals or business firms shall appear anywhere upon the flag. Any employer who sends the required assurance to the War and Navy Departments thru Colonel Arthur Woods, Chairman of the Council's Emergency Employment Committee for Soldiers and Sailors, Washington, D. C., can receive the citation, and as soon as the citation is received such employer is entitled to put the shield upon his flag.

"The shield should appear upon the service flag in the following manner: If the service flag hangs downward, as in a window, the shield should be at the top; if the flag flies from a mast, the shield should be placed on the border nearest the mast. In both cases the shield shall be right side up."



Business Warblings

1. Don't expect that you can succeed in making sales to the other fellow unless *you can make him see what you see*, and to make him see what you see, you've got to *know* with clear-cut definiteness, exactly the points you wish to emphasize. About ninety per cent. of lost sales are due to the fact that the salesman has no clear-cut ideas of his own, or definite method of presentation. The result is that he and the customer are usually talking about different things, and so the customer isn't convinced.

2. Remember that it is about *four times as easy* to sell thru a demonstration to the eye, as thru a wordy argument which enters in only at the ear gate. That's why the "Before and After" pictures are so effective; why exhibitions and displays are money-makers; why pictures, cartoons and even crude illustrations sell goods. They actually *show* just what the salesman is trying to say. It is

often easier to convince by an object which actually gives the points you are trying to make, physical form, than to describe that point and keep asking, "Do you understand? Do I make myself clear?"

3. When you would make sales let the customer do a good deal of the talking. Be ready, however, to present your own side of the case at the psychological moment, but do it in as *few words* as you can. Don't use any round-about arguments, involved sentences, and big words. Short sentences, clear ideas and faith in your own proposition, will convince. *Remember, compression gives power; expansion dissipates power.*

4. Don't try to convince other people unless you are thoroly convinced yourself. To enlarge, exaggerate, or make inferences not borne out by facts, is to undermine confidence. And permanent business cannot be builded on any other foundation than confidence.

5. Eight hours of sleep, simple, wholesome, well-prepared food, temperate habits, and plenty of fresh air, are the best possible means of keeping one's self mentally alert and physically fit. Don't be satisfied to *read that* and to say, "What a chestnut! Give us something new!" The point is, do you put the ideas in practice *regularly* and with intelligence, or are you satisfied to let George do it if he wants to, while you do as you please?

6. The man who succeeds in life is the one who merits success. He has gone into training. He is willing to pay the price of hard work and concentration. He is ready to make an effort when far-sighted judgment declares such effort will pay. He is a leader, not a follower. He does not waste his time telling how lucky the other man is. He goes after success with earnest determination to capture it. And being of the right stuff, he succeeds.

7. Courtesy is a business winner, but if it is only a superficial veneer it will not ring true. The man who is truly courteous, is sincerely considerate of others—at home and abroad.

8. The individual who thinks he can always conduct his business in the same old way, will soon get into a rut. And a rut wears itself deep enough in a short time that it will form a subway in which mere routine workers are buried. Don't travel in a rut! Peace-time conditions demand readjustment and conservation. Conservation may mean expansion. It is the true saving of materials and opportunity.

9. The man who is too stingy to spend money for lubricating oil for his automobile, and too shiftless to keep water in his radiator, must not grumble if he has a machine so over-heated that the parts become welded together and will not go. "There is an economy that tendeth to poverty." The man who would reap must plant; the man who would profit, must spend.

10. There is an old saying that "Empty wagons rattle." You can prove the truth of it any day by a little observation. The individual who is always talking, who has an opinion to offer on every occasion; who considers himself an authority on every subject, is of the rattling type. His words are usually an evidence of an empty mind rather than a full one.

The owl gets its reputation for wisdom because of silence. Don't be an owl! Don't be an empty wagon! Be an *observant, thoughtful, earnest, teachable* individual, created in the image of God—a man whose words and acts shall count because of their soundness and saneness.—*Lester G. Herbert.*

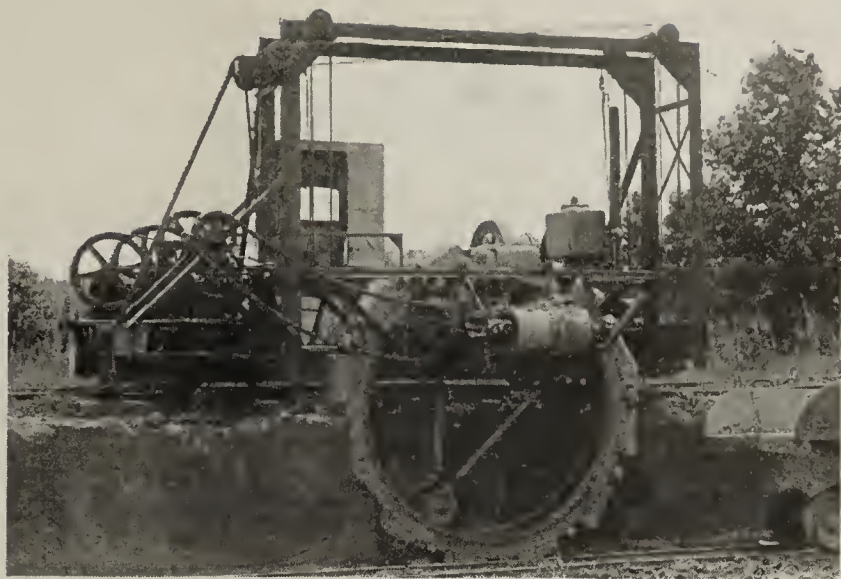


Figure the cost of UP-KEEP

Perfect mixture and saving in labor are not the only points to consider when you buy a clay digging machine—cost of upkeep is of equal importance. A digger that mixes clay and saves labor, but runs up expense for fuel, and repairs, is an expensive machine at any price.

"The up-keep of the Buckeye Traction Clay and Shale Digger is small," writes one of our customers. "The only thing wearing out to any extent being the spades of the cutters that shear the clay off, and the side cutters. Our blacksmith relays these with steel again. It takes only two sets of cutters to run the season." The cost for oil and grease is negligible.

Write us about the conditions in your clay pit. We will be pleased to send you figures and data.

The Buckeye Traction Ditcher Co.
Findlay, Ohio

Buckeye

Traction Digger

The new Model C. M. is equipped with a combination conveyor which enables operator to change his discharge from pit to bank delivery, alternating as desired.



"Either Kissel Built or Built for Kissel"—

is the Kissel manufacturing slogan. *Whatever can be built as we would build it* is furnished on rigid specifications.

Take the Kissel-built power-plant, designed and made in the Kissel shops for Kissel trucks exclusively—a motor proven out in the Brick and Clay Industry in all parts of the country on any and all grades and roads.

The dominating thought in every step of Kissel truck construction from the selection of materials to the finished chassis has been "Build to prove equal to all industrial service demands and conditions" with strength in abundance for continuous service—unlimited power for uninterrupted transportation—economical upkeep in proportion to services rendered—powered for any grade—geared for consistent speed—built for long life—designed for adaptation to every haulage and delivery requirement.

Your nearest Kissel dealer is prepared to show how the perfection to which Kissel Trucks have been brought is your protection. See him. Catalogue on request.

KISSEL MOTOR CAR CO., Hartford, Wis., U. S. A.

KISSEL TRUCKS

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

A New Belt Appliance

The Flexible Steel Lacing Co., of Chicago, has perfected and is manufacturing a remarkable new belt fastener, designed for heavy belting and made in sizes for belts varying from three-eighths inch upwards in thickness.

The simplicity and strength of design of this new device, which has been named the "High Duty" fastener, have met with the unqualified approval of mechanical men to whom it has been submitted.

The "High Duty" fastener embodies a new application of the compression principle as applied to belt fasteners. It consists of two rectangular steel plates, which clamp on either side of the belt and are connected by bolts which go through the belt.



The top plate has two round holes which are countersunk to hold the special cone shaped nuts, while the bottom plate has two special square seats which fit around the square heads of the bolts.

The tendency toward increasing thickness in conveyor belts has demanded a new type of joint, as no satisfactory heavy fastener was available. The "High Duty" joint is simple to apply; it takes only a reasonable time in proportion to the size of the belt. The strength of the joint makes its modest cost a desirable insurance on the life of the belt.

The sizes of the "High Duty" fasteners are proportioned to the thickness of the belt for which they are designed.

The requirements of conveyor service, elevator belts and heavy transmission duty at reasonable speeds have been carefully considered, and the "High Duty" fastener gives a joint of exceptionally high tensile strength, combined with the essential features of smoothness on both sides and an evenly balanced joint.

The illustration shown herewith is from a photograph of the fastener and shows the construction of the upper and lower plates as well as the special bolt and nut.

The Flexible Steel Lacing Co. are also the makers of the well known and popular "Alligator" belt lacing, Flexco lamp guard, Flexco-Lok lamp guard and the Split Handle Portable lamp guard.

✱ ✱ ✱

L. L. Gerstenberger, formerly sales manager of the Main Belting Co., at Philadelphia, has recently been made assistant general sales manager of the Imperial Belting Co. He will be located at their general offices, Chicago.

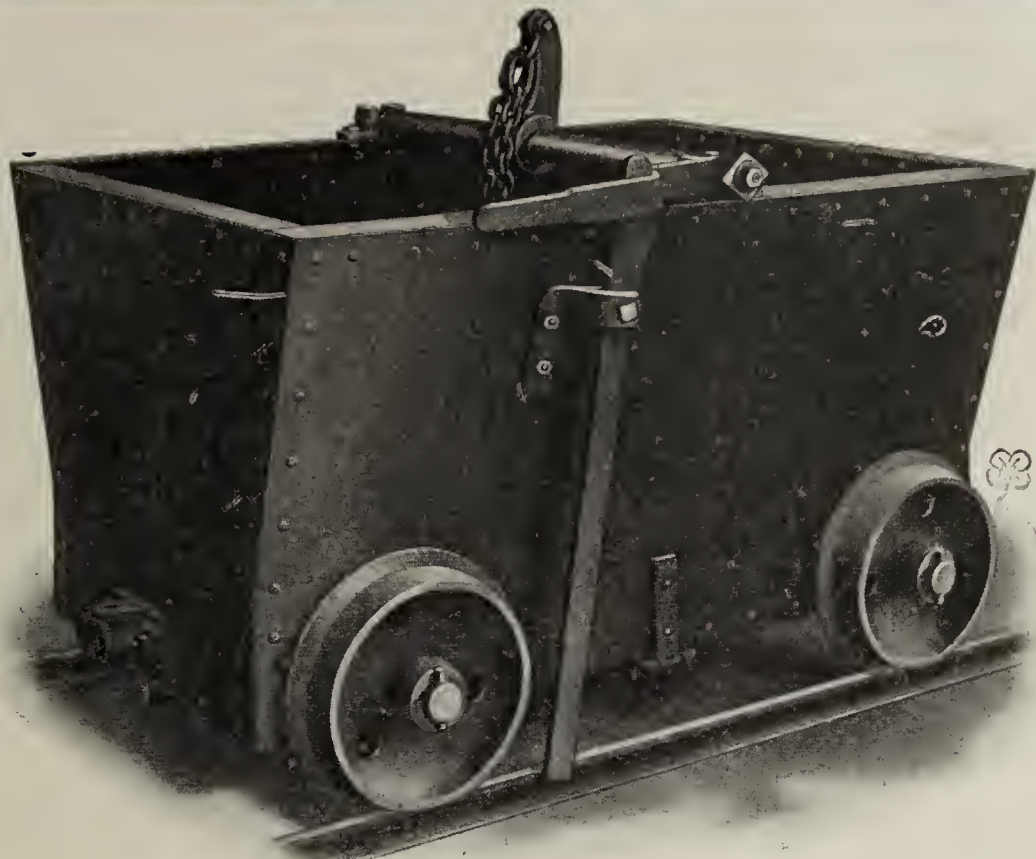
For the benefit of the many friends and business acquaintances of Charles G. Sherman, formerly manager of the Atlanta, Ga., branch of the Main Belting Co., we take pleasure in announcing that he is now connected with the Imperial Belting Co., Chicago, and will make their general offices his headquarters.

✱ ✱ ✱

Ricketson Mineral Paint Works, Milwaukee, Wis., call attention to a letter recently received from Mr. W. R. Lane Walnut Ridge, Ark., which other brick manufacturers will find of interest. The letter follows: "I received your red color and have made about 100,000 fine red brick, and am now putting up my first building. Everyone pronounces it the best looking wall in town."

American No. 71 Clay Car

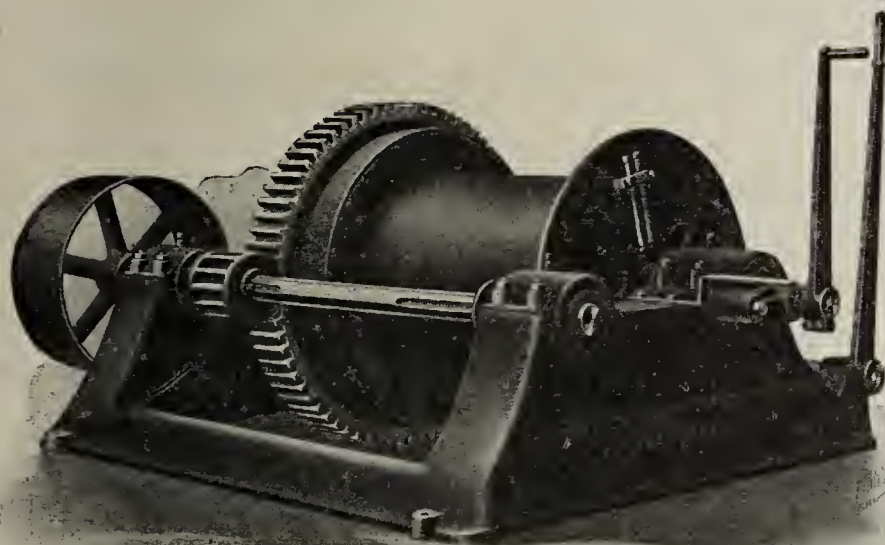
The American No. 71 Clay Car is a well built, substantial steel car with bottom dumping arrangement. This is one of many American cars we build. Get specification sheet on this car.



American No. 71 Clay Car

American No. 242 Winding Drum

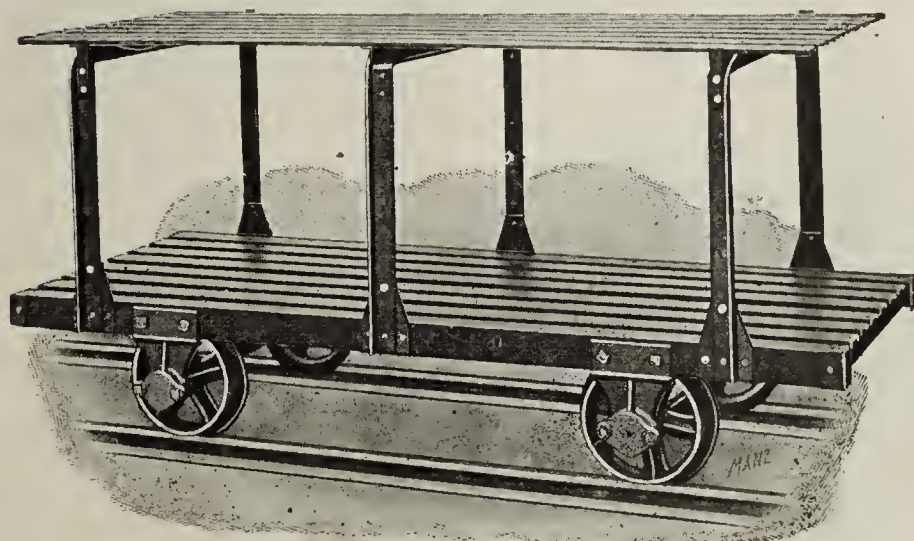
This No. 242 American Winding Drum is simple, and strong. It has a large drum capacity and is easily controlled. We tell all about it in our No. 242 bulletin which will be sent on request.



American No. 242 Winding Drum

American No. 127 Dry Car

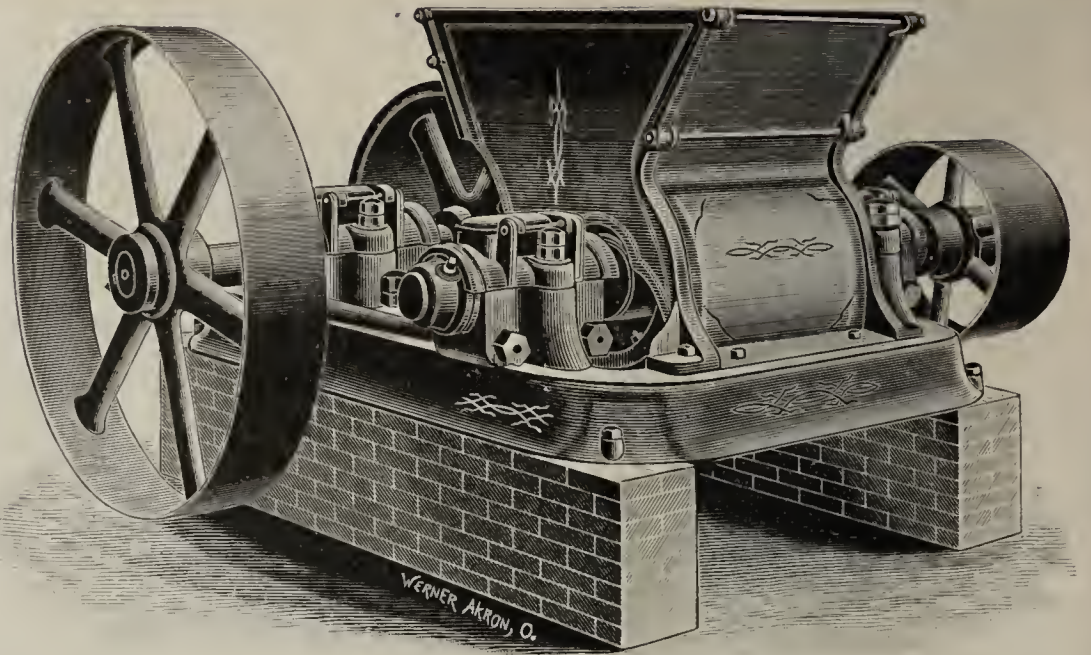
The American No. 127 Dry Car is steel construction throughout. All parts are firmly riveted and braced. The angles are high grade. The bearings are easy running. Let us tell you all about this car.



THE AMERICAN CLAY MACHINERY COMPANY
Bucyrus, Ohio

American 24 in. Disintegrator

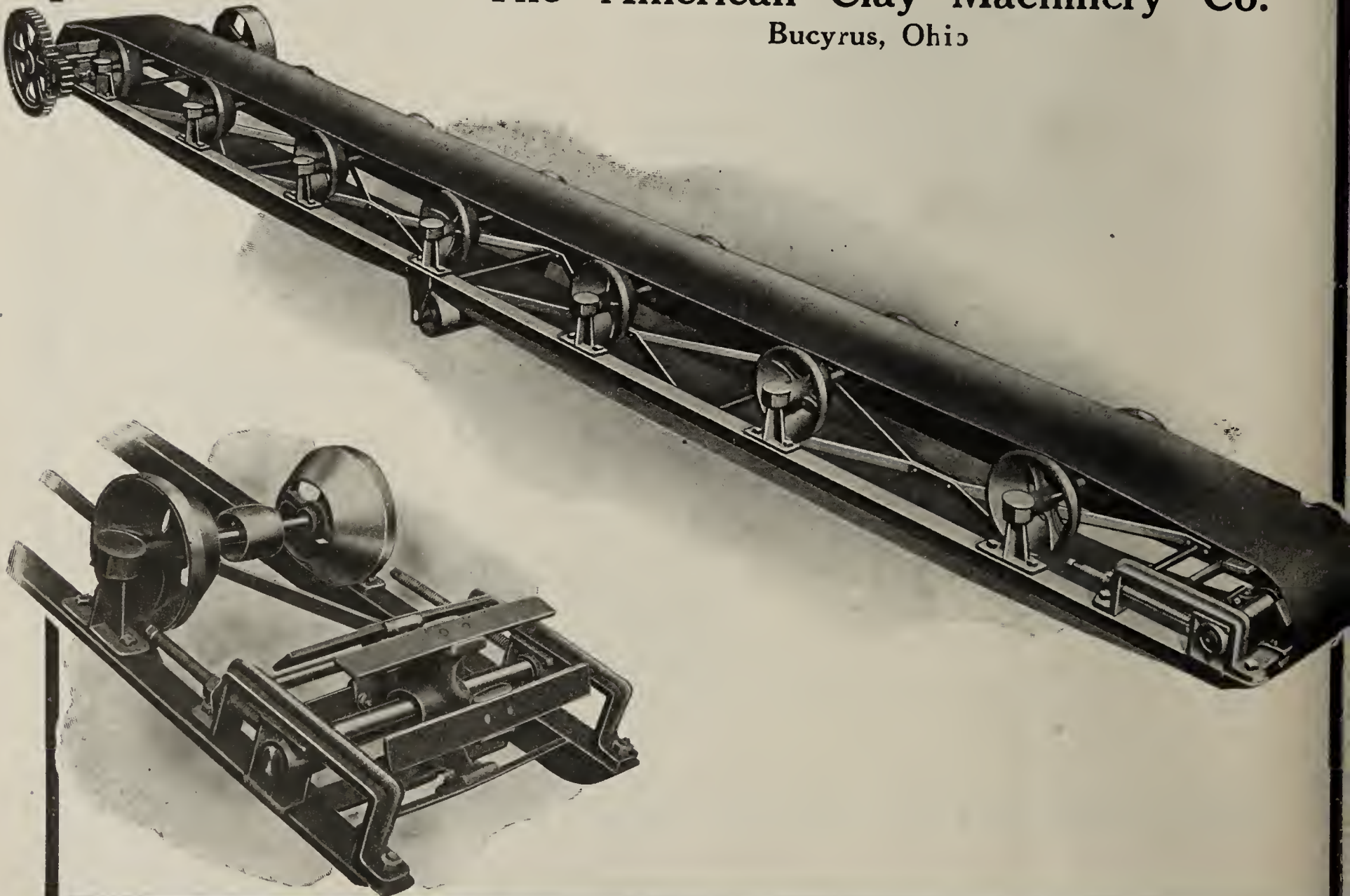
This 24-in. American Disintegrator will handle either dry or damp clay, preparing it thoroughly. There are many places where a disintegrator will greatly benefit the quality of the product. Get a descriptive circular of the American Disintegrator.



American Style "A" Conveyor

This is a steel frame conveyor with adjustable foot pulley to keep the belt properly adjusted. It is unusually well built and its details will interest you. Get circular.

The American Clay Machinery Co.
Bucyrus, Ohio



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JUN 21 1919

BRICK *and* CLAY RECORD

Four Reasons Why You Should Investigate THE MINTER SYSTEM

1. The Minter System will save you fuel and increase the capacity of your present or proposed Down Draft Kilns—the best kilns in the world.
2. It removes the one and only objection to these kilns—high fuel consumption—by saving you 50% of your present fuel cost. Burns screenings, oil or gas. Waste heat is drawn from a burned kiln to one set for water-smoking, thus saving valuable heat—and fuel.
3. Reduces cost of labor for burning.
4. Reduces time required for burning.

By speeding up the burning process, and thus reducing the number of kilns required by 40%, the Minter System really costs nothing on a battery of new kilns. On old kilns, it saves enough fuel, time and labor to pay for its installation within a given time. There are other reasons and advantages about this system that we would like to tell you about. Write for full details to

Flint River Brick Co., Albany, Ga.



Use Machinery Wherever You Can

The present necessity for greater production accompanied by high labor costs demands the use of machinery as never before.

Weller machinery for the clay products industry is designed and made with a full knowledge of every requirement that will be made of it.

Every piece of Weller equipment you install will increase production and lower costs, thus creating larger profits.

If you are facing some unusual condition where Weller *standard* equipment will not quite fill the bill, our Engineering Department is at your disposal. They will design *special* equipment, or adapt the standard to your particular needs at the lowest possible cost.

Let us send you our new Catalog J-30.



*Self Contained
Stone and Ore
Elevator*



*Belt Conveyors for Shale,
Clay, Grog, Coal, etc.*

Weller Manufacturing Co.
1856 N. Kostner Ave., Chicago, Ill.

**Elevating, Conveying and Power
Transmission Machinery**

Five Years Shoveling Clay

The owner of this Conneaut SPECIAL Shovel didn't want to part with it even after five years' use. "It's the best I ever used," he said.

Five years of shoveling have left their mark on the tough second growth Ohio white ash handle—but the finely tempered blade has worn evenly and its edge is as keen as ever. It is still good for service, though it has outlasted two or three ordinary shovels.

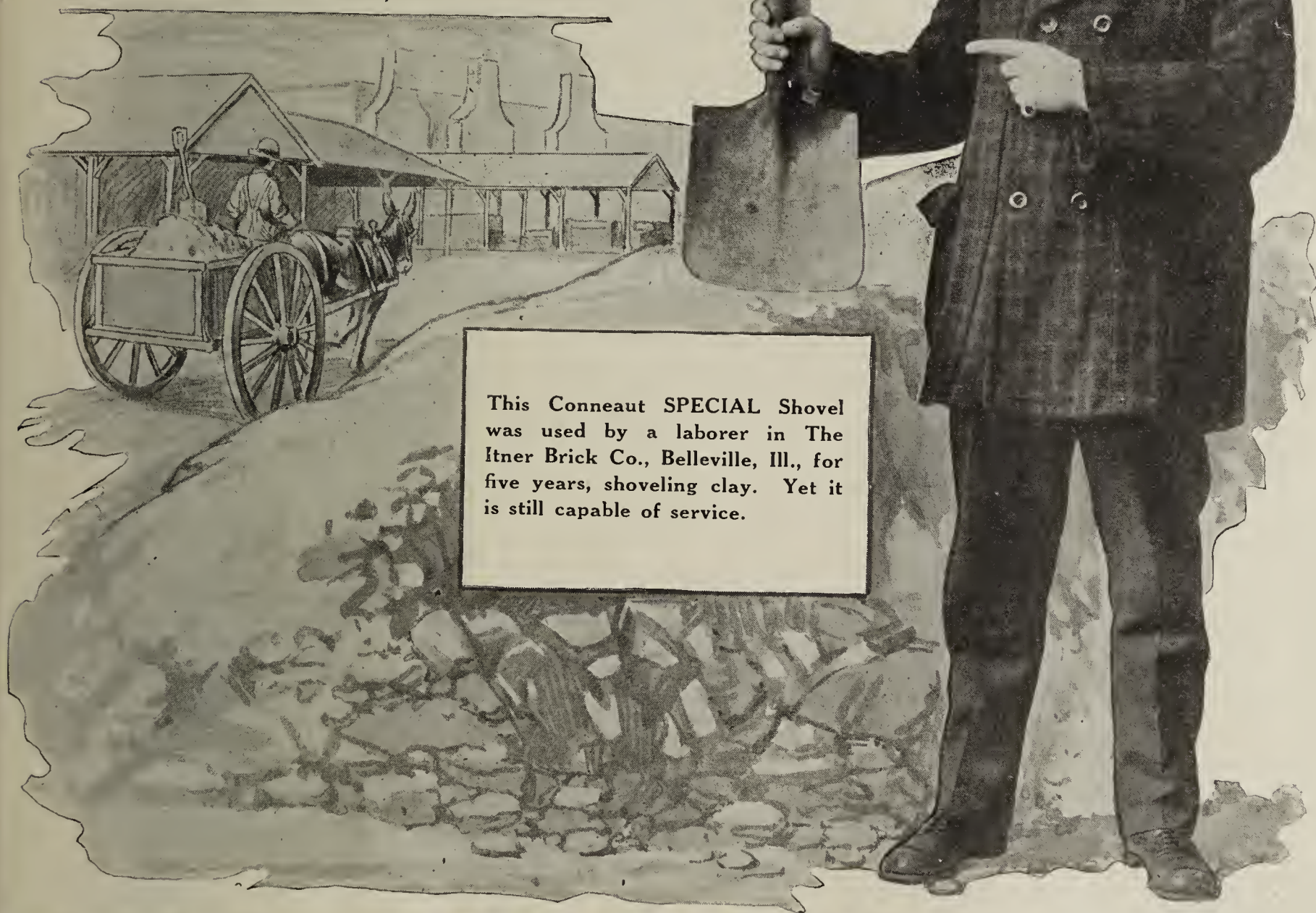
Conneaut (Mikkola Patent) Shovels are not only made to last. Scientific design by men who have made a study of shoveling problems has actually made it possible for your laborers to move 17 per cent more material per day—*without knowing it.*

Try a dozen Conneaut SPECIAL Shovels (Mikkola Patent) in your shoveling gangs for thirty days. If at the end of that time you do not consider they are worth every cent of what we ask for them, send us a check for what you consider they are worth and we will send you a receipt in full.

Your Friends

The Conneaut Shovel Co.

Conneaut SPECIAL Shovels
Conneaut, Ohio



This Conneaut SPECIAL Shovel was used by a laborer in The Itner Brick Co., Belleville, Ill., for five years, shoveling clay. Yet it is still capable of service.

CONNEAUT SPECIAL SHOVELS

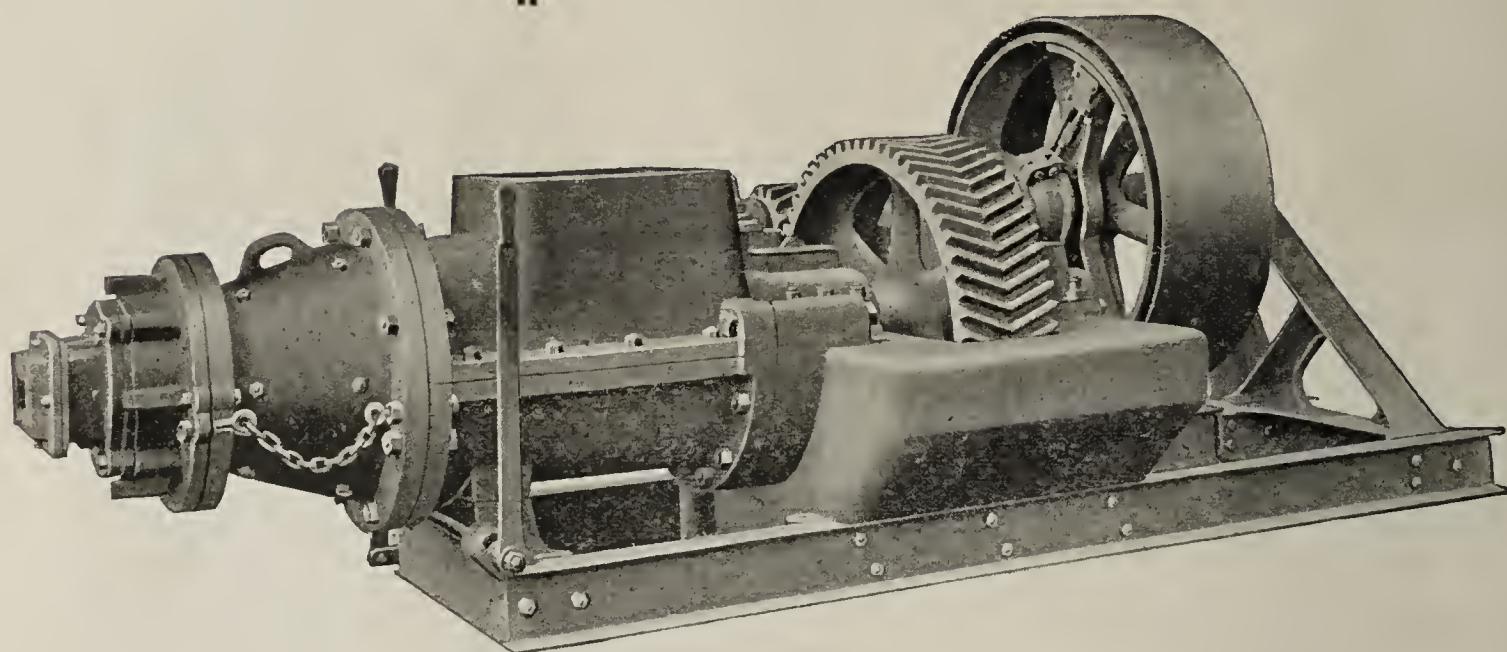
CUSTOMERS SAY —

"It is a first-class piece of machinery"

"Operating more than 2 years and shows no indication of wear"

BONNOT

No. 18 Auger Brick Machine



Why does this machine "operate for two years and show no indication of wear?"

The answer is found in its construction.

The frame—one piece casting with reservoir for oil in base.

Marine type thrust bearing—giving large thrust area.

"Rolling mill" gears made of cast steel and machine molded. Run as smooth as cut gears.

Every Bonnot Machine dominates its field just like the No. 18.

Write for catalogue

The Bonnot Company
CANTON, OHIO
"LET US STANDARDIZE YOUR PLANT"



A Wet Clay Conveyor

Again the Superiority of Leviathan Belts in Brick Plants is Shown

THIS Leviathan belt has been conveying wet clay in a most satisfactory way since February, 1917. The picture was taken April, 1918 and shows how well the belt stands the work.

Size of belt—84 in. x 24 in. x 6 ply.

Main Troughing Rollers are used; Style "C" and return, Style

"R". Angle of incline is over 20°; this makes the use of side boards necessary.

The clay is carried from the cars to the disintegrator and is frequently very wet.

When the majority of Brick Men write "Belt" on an order, they just naturally fill in "Leviathan" alongside.

If you haven't had your slice of Leviathan service yet, just say so to the Leviathan man when he calls



MAIN BELTING COMPANY . . Philadelphia

New York Boston Chicago Pittsburgh Atlanta San Francisco



El Paso Brick Co.
El Paso, Texas.



OUTLINE MAIN DRIVE

Driving Pulley	18' Dia
Speed of driving pulley	75 R.P.M.
Driven pulley	5'8" Dia.
Belt speed	4241 F.P.M.
Horsepower	Max. 300

Specified GOODYEAR BELT
30"-6 ply Blue Streak Construction

Wasted Horsepower—and the G. T. M.

It was a spendthrift of power and a trouble-maker of the first class, that main-drive in the El Paso Brick Company's plant. Some years ago it was all right, but as the company grew it got worse and worse. Every kind and many grades of belt were tried on it. They slipped and jumped and stretched. They wasted horsepower-hours by the hundred. Most of them lasted only four or six months. The most expensive ran their unreliable way for about a year. They made that main-drive one of the most costly things in the plant. Finally the manager, Mr. Rodgers, asked a G. T. M.—Goodyear Technical Man—to call.

The G. T. M.—our Mr. Watson—was told by Mr. Rodgers that it was planned to try out an 18-inch 8-ply Goodyear Belt of Blue Streak construction, but that it would be a good thing to look over the drive first. The G. T. M. thought it would be a good thing to *study* the drive—so they went and looked and measured.

There was 300 horsepower coming off a fly wheel with a 40-inch face and intended for delivery to a shaft-pulley with an 18-inch face. But 105 of the 300 were being wasted by slippage, because that line-shaft pulley-face hadn't grown with the plant.

The G. T. M. recommended to Mr. Rodgers that he put on a line-shaft pulley with a face to take a 30-inch belt, specified a 30-inch 6-ply Blue

Streak, stated his reasons, and was told to go ahead. He did. The belt and the new pulley were installed in April, 1918, and that main-drive has been a joy ever since.

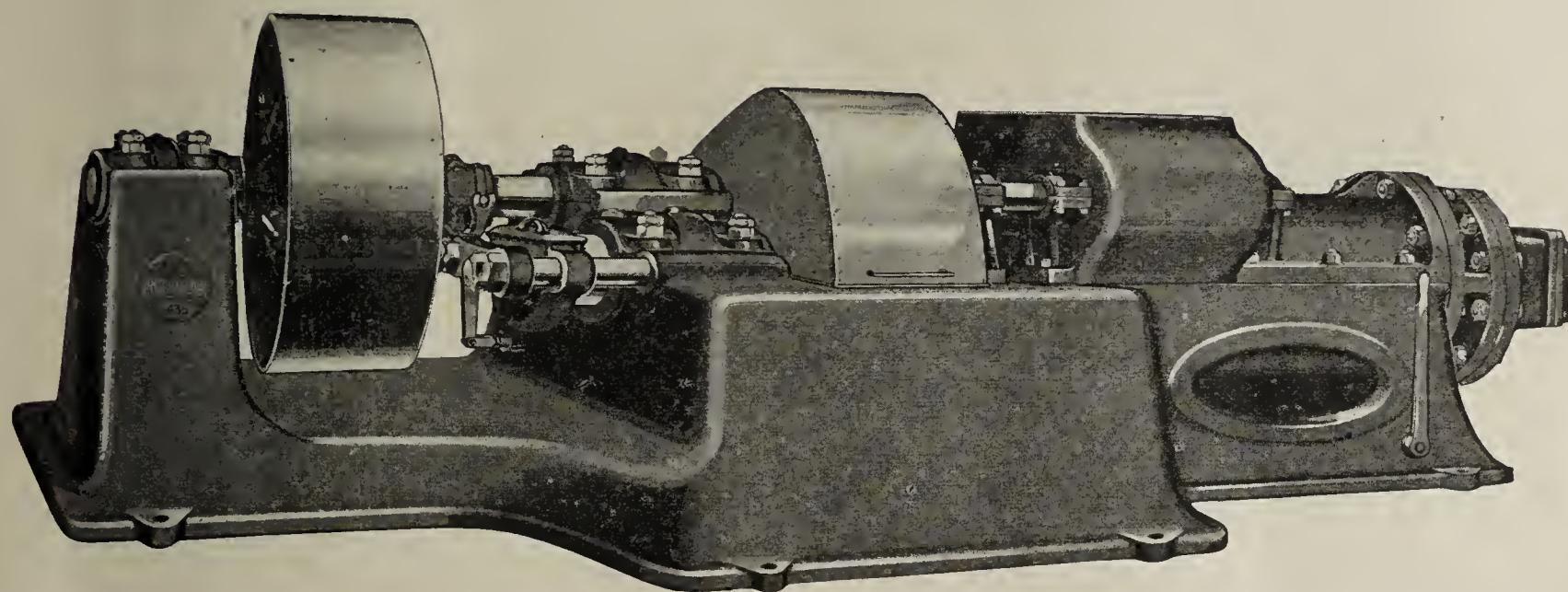
From the first more than 100 of the 105 horsepower formerly wasted has been saved. The belt runs with perfect smoothness and evenness. And it costs much less than those that used to slip, stretch and break under overload, and waste a thousand horsepower-hours in an ordinary working day. And in Mr. Rodgers' judgment the Goodyear Belt is good for several more years.

There are many main-drives for which a G. T. M. can do similar things—main-drives still belted according to precedent instead of in accordance with the real conditions. Not all of them have out-grown pulley-faces, but many have; and scores of others are using belts of the wrong construction, others have belts made of materials that require such extraordinary tightening that they are hard on bearings, cause shafting to weave, and waste power and time in many other ways.

Ask a G. T. M. to look over your main-drive. He will call when next he is in your vicinity. He may find it all right—and if it is, he will tell you so. If it isn't, and he recommends certain changes, you are in no way obligated to carry them out unless his reasons convince you.

BELTING · PACKING HOSE · VALVES
GOODYEAR
AKRON

Two Castings Two Shafts Two Gears



International's new line of auger equipment has but two main castings, two gears and two shafts.

Its shafts and thrusts are larger, its gears wider face, its bearings longer and its pulley stronger than any other similar capacity machine on the American market.

With its gears running in oil, its augers fast and very hard, its barrel fitted with removable liners, its bearings chain oiled and with two thrusts on the auger shaft, you have the highest development in auger machinery.

Let us tell you all about it.

International Clay Machinery Co.
DAYTON, OHIO



Bird's Eye View of Didier-March Keasbey Plant

Visions that are Guided by Experience

For the past eight years Didier-March Company has been operating two Didier-March kilns, together with kilns of other type, at their Keasbey plant. The comparative results of these different kilns have been checked, compared and arranged for your benefit. The results obtained by Didier-March kilns operating in various parts of the country also have been compiled. These working figures, based as they are on practical experience, show the relative economical advantages obtainable with a Didier-March Continuous Railroad Tunnel Kiln at *your* plant.

The saving in fuel averages over 50%. That of labor, 50%. Burning time is reduced from 12 days to 72 hours. On firebrick, porcelains, large boiler lintels, and other high grade refractories, *the Didier-March kiln reduces the burning cost by 1/2*. The many technical advantages are equally important to you. Particulars will be gladly sent you on request. Write to

Didier-March Company **Perth Amboy, N. J.**
GEO. A. BALZ, General Manager





Note that the Area of One Setting of the Machine Is More Than Three Acres

Schofield-Burkett Excavators in Connecticut and Georgia

A Connecticut brick company says, the feature that recommends the Schofield-Burkett Excavator for their work is its capacity in "getting material from any part of bank and moving a yard or more of it 500 to 900 feet every three minutes. Costs 10c per delivered ton."

Another brick plant in Georgia writes: "We are glad to say that the system has been so satisfactory to us that we have continued the use of it for the past several years."

No matter how well equipped other departments of your plant may be, if the handling of your raw material is expensive—and in most plants it is—then the efficiency of the whole plant is impaired. Even if you use a power shovel, the S-B Excavator will cut your digging costs by reducing labor, speeding up delivery and improving the mix. Let us send you some interesting data that will show you how this machine can help you.

Digs, gathers, mixes and delivers. Operated by two or three ordinary workmen. Excavates several acres of clay or shale without moving tracks or machinery. Works fast—economical—repairs easily made and inexpensive.

Built extra strong for long life and heavy duty.

Write for Bulletin 20.

Schofield-Burkett Construction Company
Macon, Georgia



It is estimated that the crown of an ordinary 30-foot round down draft kiln, being burned at 1800° F., wastes by radiation the heat of 3500 pounds of coal every day this temperature is maintained. So far, science has discovered no way in which all of this waste can be avoided, but it is possible to reduce the loss from 60 to 75%. How? Simply by installing one 4½-inch course of

Nonpareil Insulating Brick

For Kiln Crowns and Walls

This means, then, that there would be a saving of approximately 2100 pounds of coal per day per kiln under the conditions given.

Nonpareil Insulating Brick cut down radiation loss because they are ten times better in-

ulators than ordinary brick. Instead of allowing valuable heat to penetrate the walls and crown easily, and go to waste in the atmosphere, they keep most of it in the kiln where it can do useful work.

Aren't the savings that can be effected by Nonpareil Insulating Brick worth investigating? Wouldn't they help to lower your cost of production? We should be very glad to supply you with full information regarding the use of Nonpareil Brick in your plant. Samples and literature will be cheerfully sent on request.

Armstrong Cork & Insulation Company, 149 Twenty-fourth Street, Pittsburgh, Pa.

Also manufacturers of Nonpareil High Pressure Covering for steam lines; Nonpareil Cork Covering for drinking water systems; Linotile and Nonpareil Cork Tile for floors in offices, residences, etc.

Thews are Everywhere



The New Business Era

Internal Revenue figures indicate there is general prosperity throughout the country.

Tremendous building and construction activities are now under way. Larger projects are being planned.

You will profit by the business awakening if your plant is in order, if you can supply these new markets, if you can keep down production costs.

Thew Gasoline Shovels will remove these "Ifs" that stand between you and this golden opportunity.

With them, you can dig large quantities of

clay at small yardage cost. Operating expense continues only while actually digging. Two to three gallons of gasoline or kerosene is the average fuel consumption per hour. A barrel of water, for cooling, lasts several days.

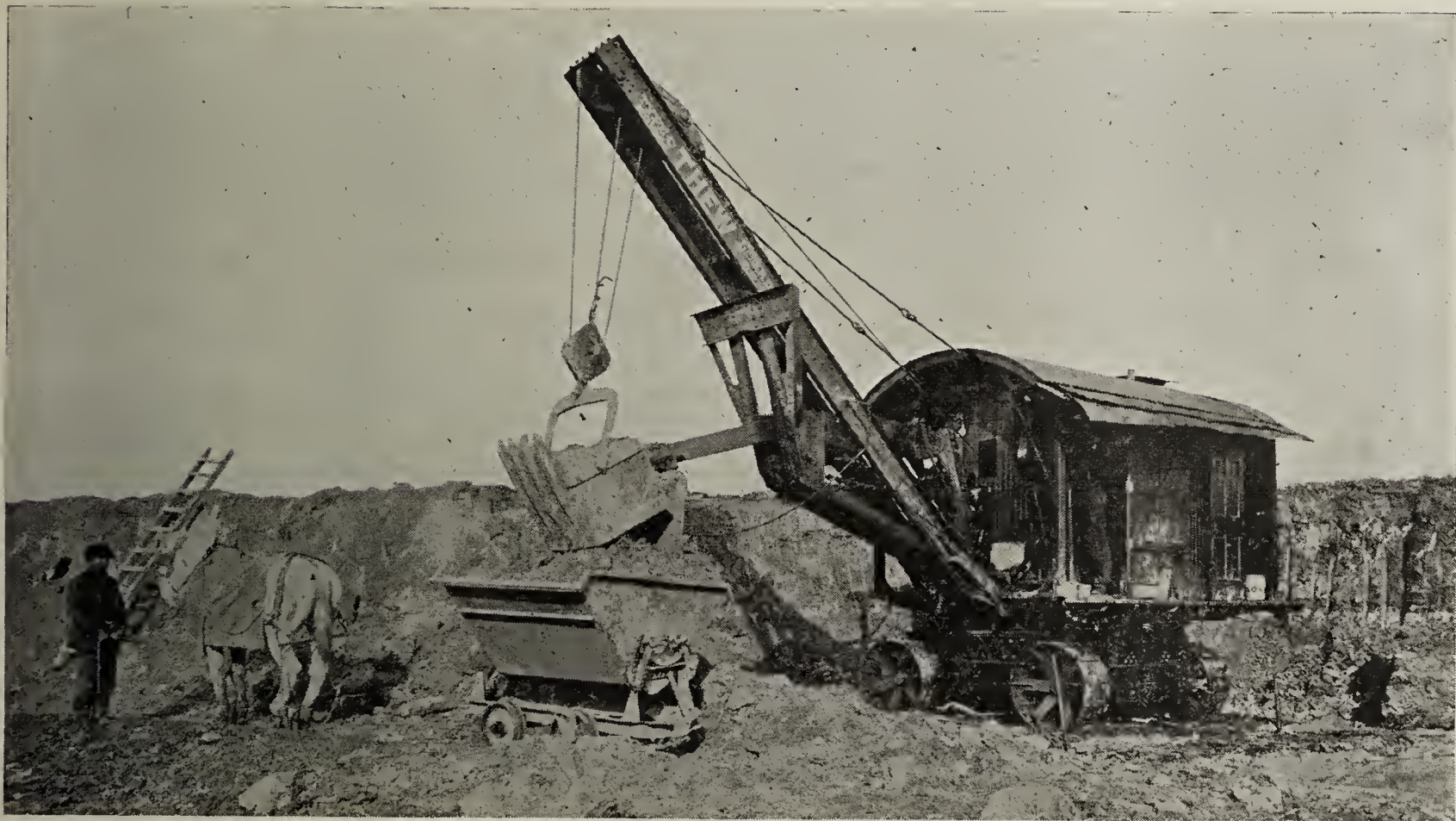
Don't overlook these other economies: No coal or water wagon; no fires to bank; no delays raising steam.

A Thew Engineer will gladly show you how profitably you can use one of these shovels in your pit.

We manufacture a complete line of revolving Shovels—Electric, Gasoline, Steam—with dipper capacities ranging from ½ to 2 cubic yards.

THE THEW AUTOMATIC SHOVEL COMPANY, Lorain, Ohio

New York Office: 30 Church Street



THEW Power Shovels

ALLIED

Export Department

ALLIED CONSTRUCTION MACHINERY CORPORATION

120 Broadway

New York U.S.A.

ALLIED

REXALL

DOUBLE - STITCHED

BELTING

WHERE EXTRA SERVICE BEGINS

The extra service that REXALL double-stitched conveyor belts have been giving in the brick and clay fields begins with the raw materials. A belt is no stronger or no more durable than the material that is originally put into it. It is no more efficient than the processes through which that belt must pass in the course of its manufacture. REXALL extra-service is guaranteed by—

Extra-weight-fabric—using 37½ oz. fabric, made to our own specification and triple tested.

Double-stitching in closer rows and shorter stitches than any other belting prevents ply separation.

Impregnation through a special process using a gum compound temporarily liquified at a high temperature which impregnates and insulates every fibre of the belting.

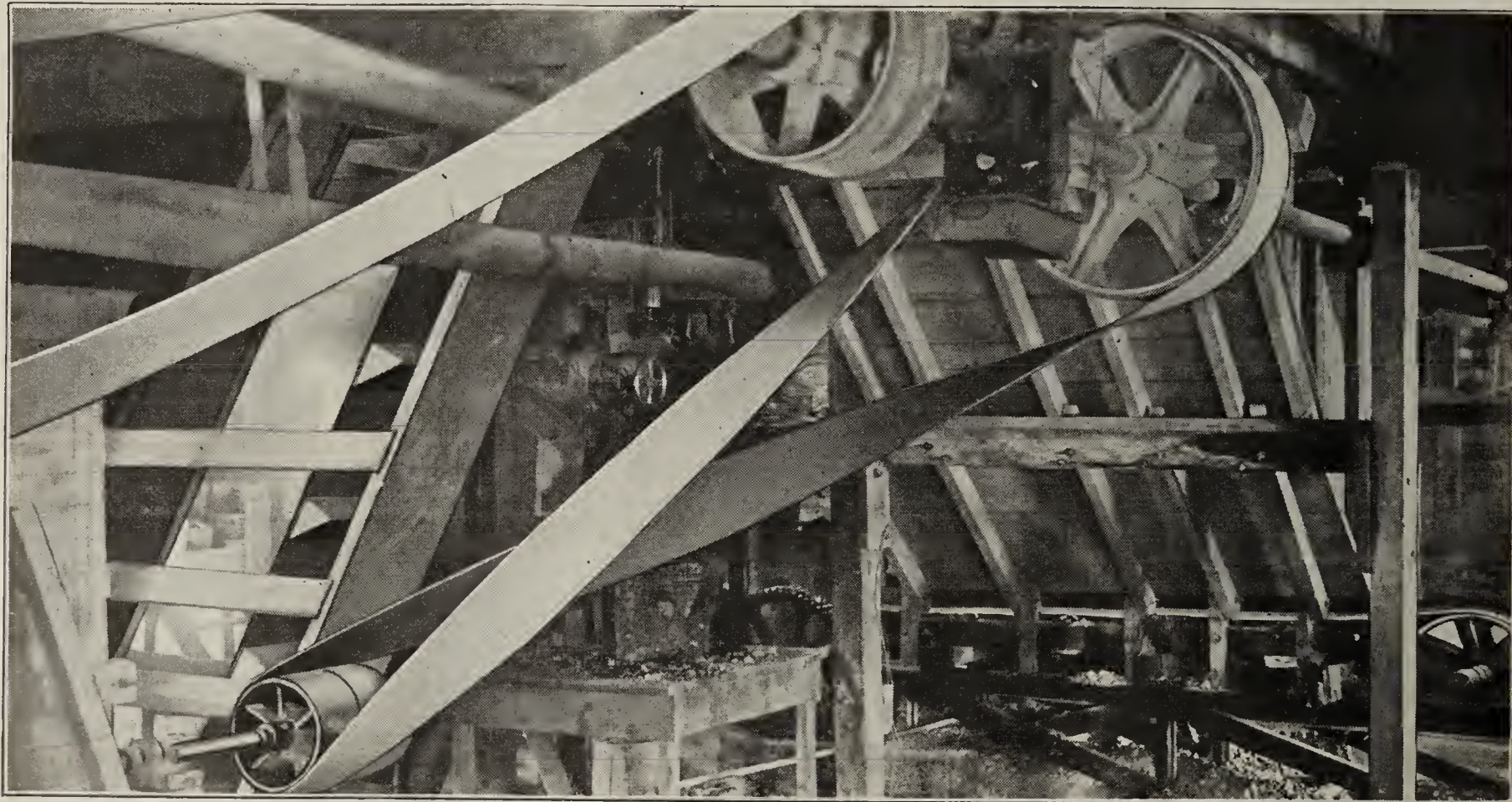
Gradual Factory Stretch approximating as closely as possible actual service conditions. Where others stretch a belt in a couple of days we take 3 weeks or more.

In every step of the manufacture of REXALL belts the idea is to put more into them so the user will get more service out of them. REXALL belts are rugged enough to stand up 25% longer under the severe service demanded of belts in the brick and clay fields.

IMPERIAL BELTING COMPANY, General Offices, Lincoln and Kinzie Sts., Chicago

Consult with our engineering staff if you wish assistance in solving a difficult or unusual conveying problem. This service is offered without obligation.

BRANCH OFFICES: 120 Liberty Street, New York, N. Y.; 512 Hippodrome Bldg., Cleveland, Ohio; 112 Market Street, Pittsburgh, Pa.; 205-209 Kresge Bldg., Detroit, Michigan; 924 Kearns Bldg., Salt Lake City, Utah.



An Advertisement by
CHARLES ENGELHARD

30 Church Street

NEW YORK, N. Y.

Curtailment of Production means a relatively greater loss in Profits.

Increased efficiency is the only way to combat the situation.

Are you now firing your kilns twenty-five to fifty per cent too long?

Are you turning your kilns as often as you should?

Are you paying your men to shovel Coal or make Brick?

Engelhard LeChatelier Pyrometers

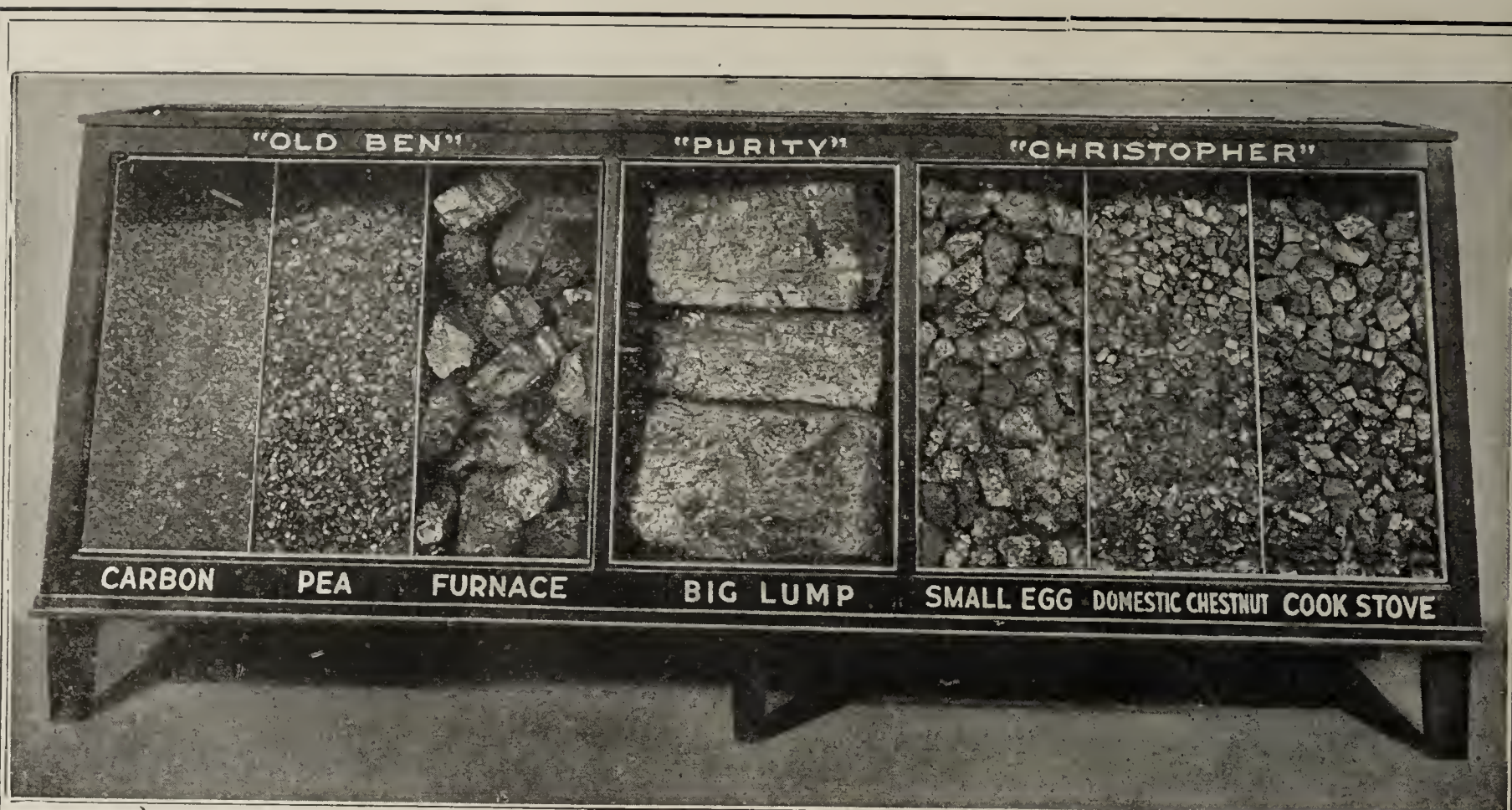
Will show you those periods where fuel is being consumed without accomplishing anything—those times when your men are shoveling Coal, not making Brick—those times when kilns are being depreciated without accomplishing results.

When the Superintendent and men do not have an accurate temperature guide they are almost always over-cautious, therefore do not burn the kiln off as rapidly as is possible without danger.

In most ware there are certain critical stages which have to be passed with care, but these may be approached as rapidly as possible—without means of knowing just when the danger point is reached, the conscientious burner goes very slowly. He loses time. It costs you money.

There has been no time when Pyrometers have been so indispensable.

*Let Us Tell You What We Can
Do For You*



“Old Ben Franklin County” COAL

EXCEPTIONALLY ADAPTED FOR MANUFACTURING
CLAY PRODUCTS OF EVERY KIND

ANNUAL CAPACITY OF MINES
6,000,000 TONS

C. B. & Q.—C. & E. I. and ILL. CENTRAL CONNECTIONS

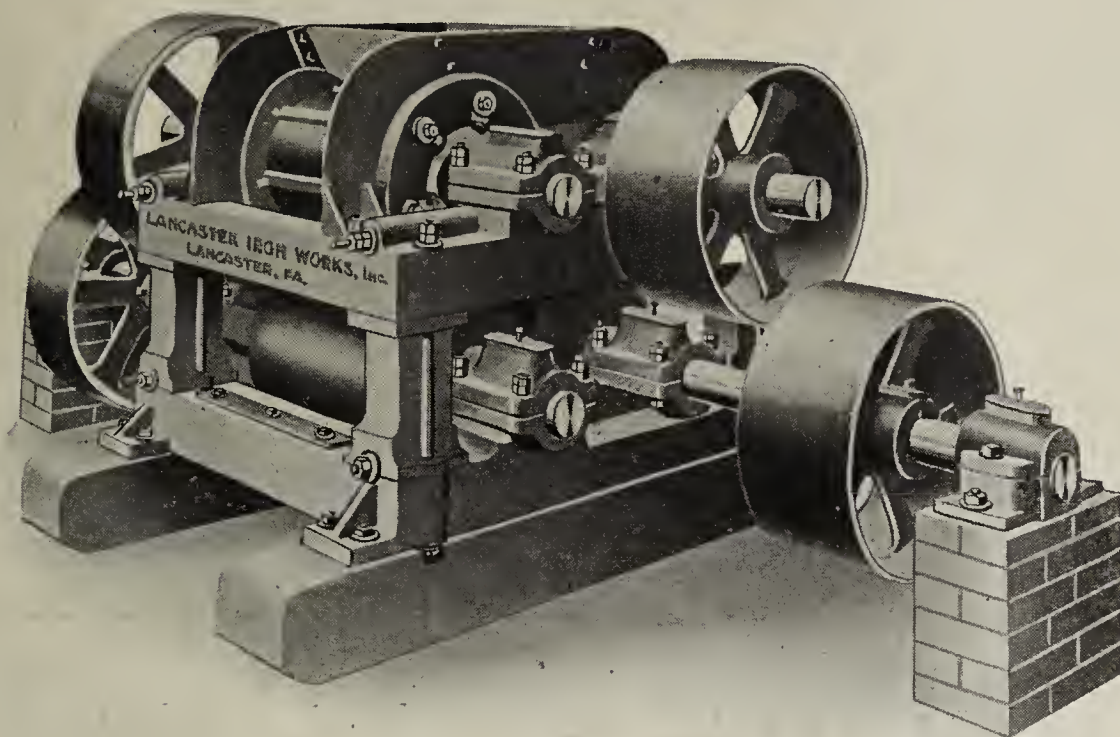
PRODUCED AND SHIPPED BY

OLD BEN COAL CORPORATION
CHICAGO

“LANCASTER”

STYLE “F”

Compound Disintegrator and Crusher



HERE is a development of a Disintegrator that was designed by Mr. Parry, a practical Brick Manufacturer of many years' experience, who operated several Brick Plants in Massachusetts and New Hampshire.

Mr. Parry's clay was tough, plastic and contained quite a quantity of stones.

"Necessity is the Mother of Invention" and so this Disintegrator was brought forth because it was necessary for Mr. Parry to install a machine that would stand the wear and tear demanded by his clay. The Boston Brick Company, Boston, Massachusetts, have continuously used this machine for many years, and in all that time have required only a few dollars additional investment in spare parts. Many other users give us similar testimonials for this machine.

We build this machine as a Single Disintegrator as well as combining with a Smooth Roll Crusher as shown in the illustration.

The design of rolls, frame and the attachment of the cutting bars are features not found in any other make.

Our complete line of SOFT MUD BRICK MACHINERY is now ready.

We can furnish spare parts for the original "MARTIN" Machinery.

We invite correspondence with the practical Brick Manufacturers who have machinery ideas that should be properly developed for the trade.

"We help ourselves by helping others"

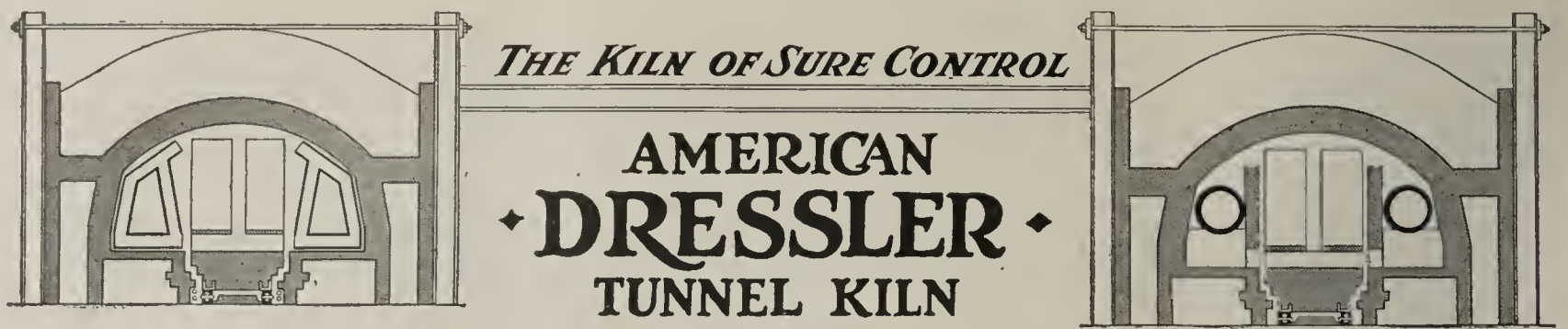
LANCASTER IRON WORKS

Incorporated

Lancaster, Pennsylvania

New York Office
501 Fifth Ave.

Jas. P. Martin, Mgr.
Clay Working and Foundry Machinery Dept.



Paving Brick Makers

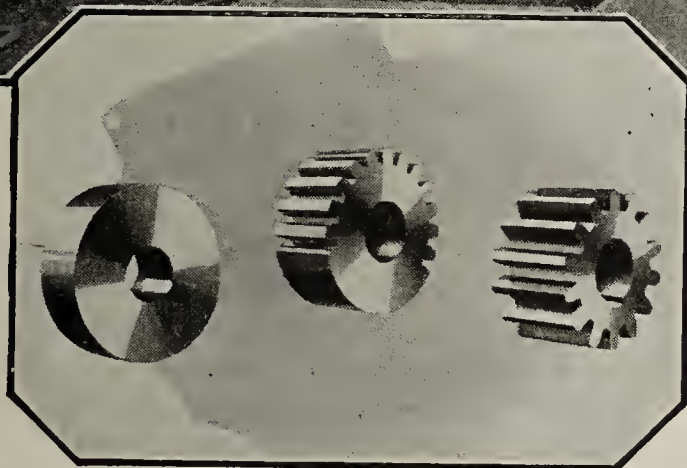
21-Days or 3-Days?

*We recently fired satisfactorily Paving
Blocks in 3 days which are taking 21
days in periodic kilns. There's a reason.
Ask us about it.*

**AMERICAN DRESSLER
TUNNEL KILNS, Inc.**

171 Madison Avenue

New York City



Here is one little glimpse of the slow, painstaking, but sure way we build "Marion" Shovels. This is "just a pinion"—but look at the way it is cut! Naturally, you expect it to last—and so it does. So does everything else about a "Marion!"



THE MARION STEAM SHOVEL COMPANY

Established 1884

Marion, Ohio

CHICAGO

NEW YORK

SAN FRANCISCO

Marion

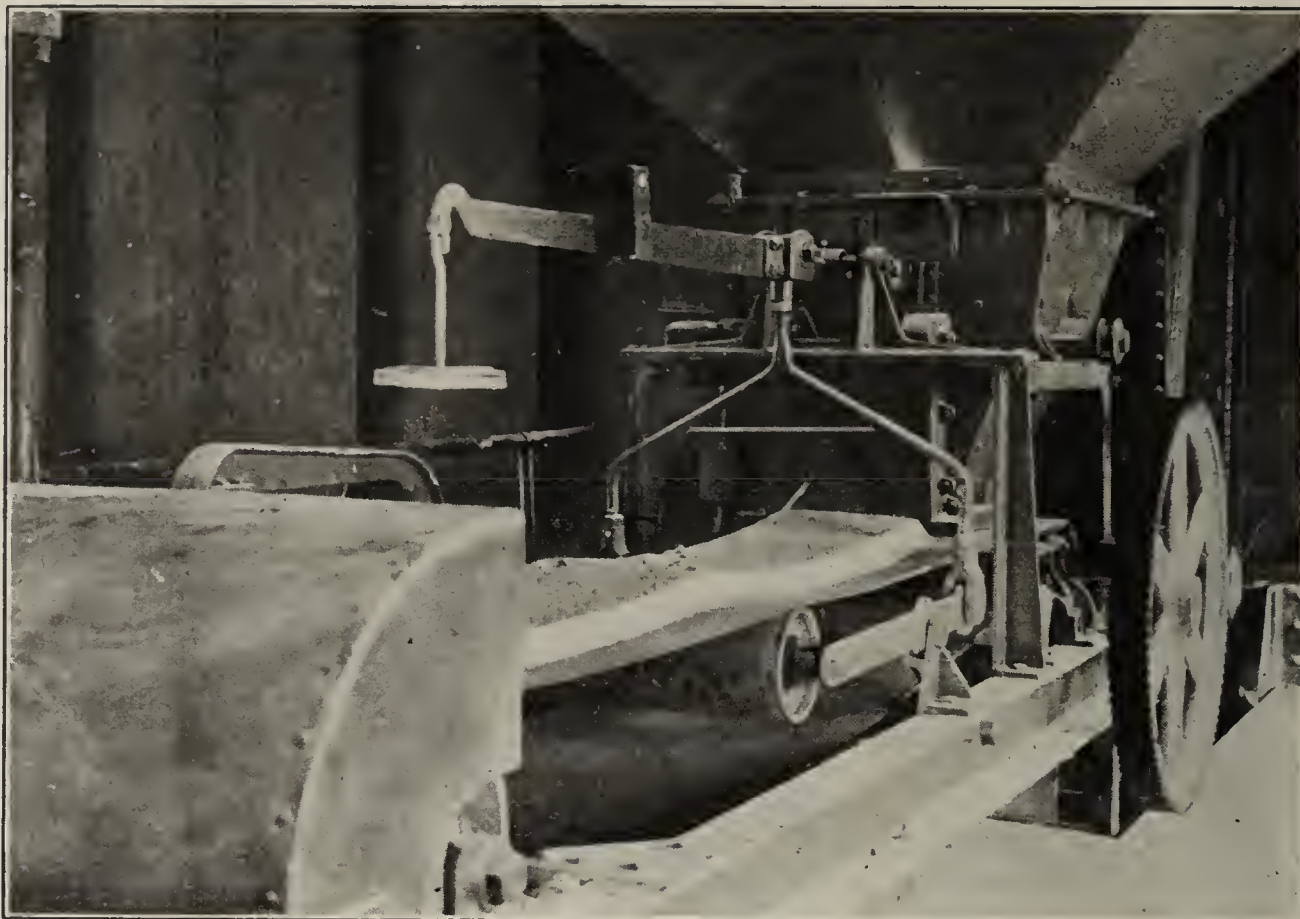
Hot in the Pit? Who Cares!

In the days before the Moberly Paving Brick Co. bought its "Marion," nobody cared to load in the shale-pit on a hot day.

This plant is at Moberly, Mo., and when Old Man Sun gets on the job out there, everybody *knows* it.

Not only did the coming of this "Marion" release the loading crew from a slavish job, but it has helped boost production at a wonderful rate. In the old days the average was 40,000 "Missouri" Block a day; now it is 75,000. The plant employs fewer men now than it did before, too.

Hundreds of other "Marions" are "extending the helping hand" to brickmakers in just this same honest, sincere way. Of course we'd like to include you among those helped. Will you "start something," please?



Schaffer Poidometer "Pays for Itself Twice a Year" It's a Machine You "don't have to worry about"

"Your Poidometer is certainly a wonder," writes the Adel Clay Products Company. "We have had no trouble with it in any way and it never gets drunk or lays off. It might be of interest to you to know why we originally installed the machine. Our pug-mill tempering man was off one time several years ago and we were having trouble with the man that was taking his place and not getting an even mixture. At that time we sat down and asked you for quotations and very soon afterwards ordered the machine. We really believe that **the machine pays for itself at least twice a year** in material that would be otherwise cracked because of uneven temper and consequent cracking in the dryer."

The Straitsville Impervious Brick Company is another user who likes this machine because of its capacity for big production, accuracy and dependability. "It has handled and mixed thousands and thousands of tons of material for us and not cost us one cent for repairs—which is surely going some. It is one of the few machines we have in operation **which we do not have to worry about.**"

This machine automatically delivers materials by **weight** in a continuous stream. It delivers the material, both solids and liquids, in any predetermined quantity at an even and reg-

ular flow, and records the amount handled, regardless of changes in specific gravity, of moisture or sizes of material. To regulate the amount of mix is merely a matter of setting the weights on the scale beam. Machine can be attached to a hopper, bin or elevator spout.

It will start operation only upon receipt of material or liquids; and stop when it fails to receive them, or if desired, when predetermined quantity is delivered. It handles a very wide variety of materials. If material hangs up, machine will vibrate bin or bunker.

Dispenses with labor of pug mill man—operation of machine is automatic; aids in proper tempering of ware and forms better column; prevents cracking in dryer because of uniform consistency of clay; 99.75% accurate; no repairs; no attention required; trouble proof.

Write for catalog which contains valuable data for you.

The Schaffer Engineering & Equipment Company
Peoples Bank Bldg., Pittsburgh, Pa.

ADAPTABLE to your plant

OSGOOD

29

See the long reach of the Osgood boom. It is another important feature that makes the Osgood Steam Shovel adaptable to Brick and Tile plants. It loads to wagons or cars up on the bank or down in the pit, and to any point on a circle. This one yard shovel digs frozen clay and hard shale without any preliminary blasting. It

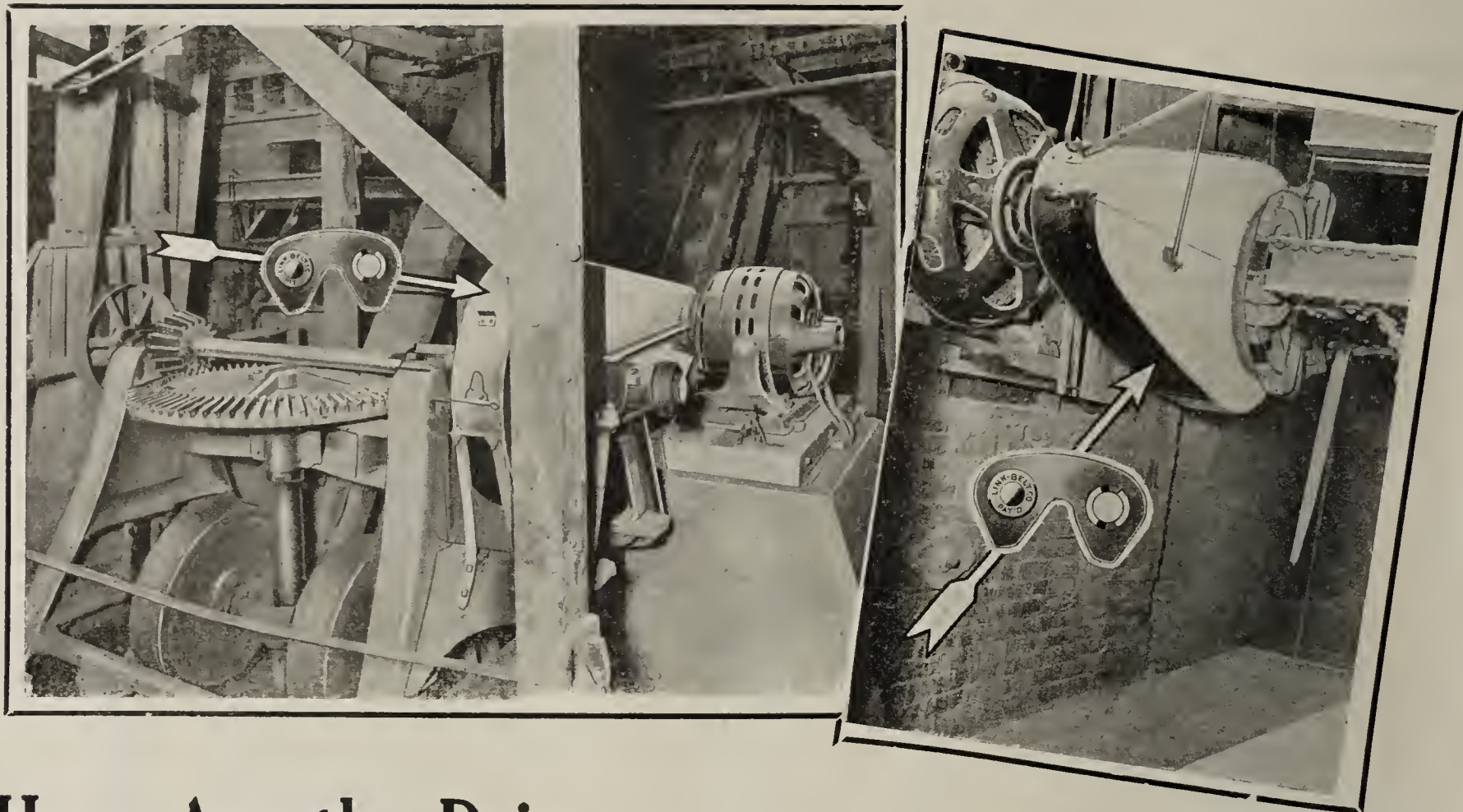
fits the requirements of almost any plant, doing the work at low cost and with practically no repairs.

Let us tell you where you can see one of these 29's at work. Talk with the owner, who will gladly give you first hand clay digging facts. Then judge for yourself whether the Osgood "29" isn't the best shovel for you to buy.

Write us now.

THE OSGOOD CO.
MARION, OHIO





Here Are the Drives-- Here's What the Owners Say of Them

The use of one Link-Belt Silent Chain Drive by any manufacturer almost invariably leads to its adoption as the standard driving medium throughout the plant wherever possible to employ it.

"The smooth, flexible and efficient operation of these drives, coupled with the compact arrangement and consequent saving of space" will appeal as strongly to you as it did to the Crouse Clay Products Company.

For Link-Belt Silent Chain Drives are "flexible as a belt, positive as a gear, more efficient than either. They have repeatedly proven 98.2% efficient on actual test.

Write for our Clay Working Machinery Drive Book No. 310. It's full of interesting views and information.

LINK-BELT COMPANY

PHILADELPHIA

New York.....299 Broadway
Boston.....49 Federal St.
Pittsburgh.....1501 Park Bldg.
St. Louis.....Cent'l Nat'l Bank Bldg.
Wilkes-Barre.....2d Nat'l Bank Bldg.
Cleveland.....429 Rockefeller Bldg.
Detroit.....732 Dime Bank Bldg.
Minneapolis.....418 S. Third St.
Kansas City, Mo.....306 Elmhurst Bldg.

CHICAGO

Seattle.....376 First Avenue, S.
Portland, Ore.....First and Stark Sts.
San Francisco.....582 Market St.
Los Angeles.....163 N. Los Angeles St.
Toronto, Can.....Canadian Link-Belt Co., Ltd.
Denver.....Lindrooth, Shubart & Co., Boston Bldg.
New Orleans.....C. O. Hinz, Hibernia Bank Bldg.
Charlotte, N. C.....J. S. Cothran, Com'l Bank Bldg.

INDIANAPOLIS

THE CROUSE CLAY PRODUCT COMPANY
Manufacturers of
AKRON STANDARD SEWER PIPE
AKRON, OHIO April 15th, 1919.

Link-Belt Company,
429 Rockefeller Bldg.,
Cleveland, Ohio.

Gentlemen:-

In the Fall of 1916, we equipped our 50 h. p. dry pan with Link-Belt silent chain drive and casing. The complete satisfaction received influenced us to later install a 75 h. p. Link-Belt to operate wet pane line shaft.

The smooth, flexible and efficient operation of these drives, coupled with the compact arrangement and consequent saving of space appeals strongly to us.

Your highly developed casing with dust and oil tight seals, seems to us to be the connecting link which not only insures long life, but makes the chain drive practically proof against lack of attention on the part of operatives.

Yours very truly,
THE CROUSE CLAY PRODUCT CO.
By *Geo. W. Crouse*
Vice-President, & Secy.

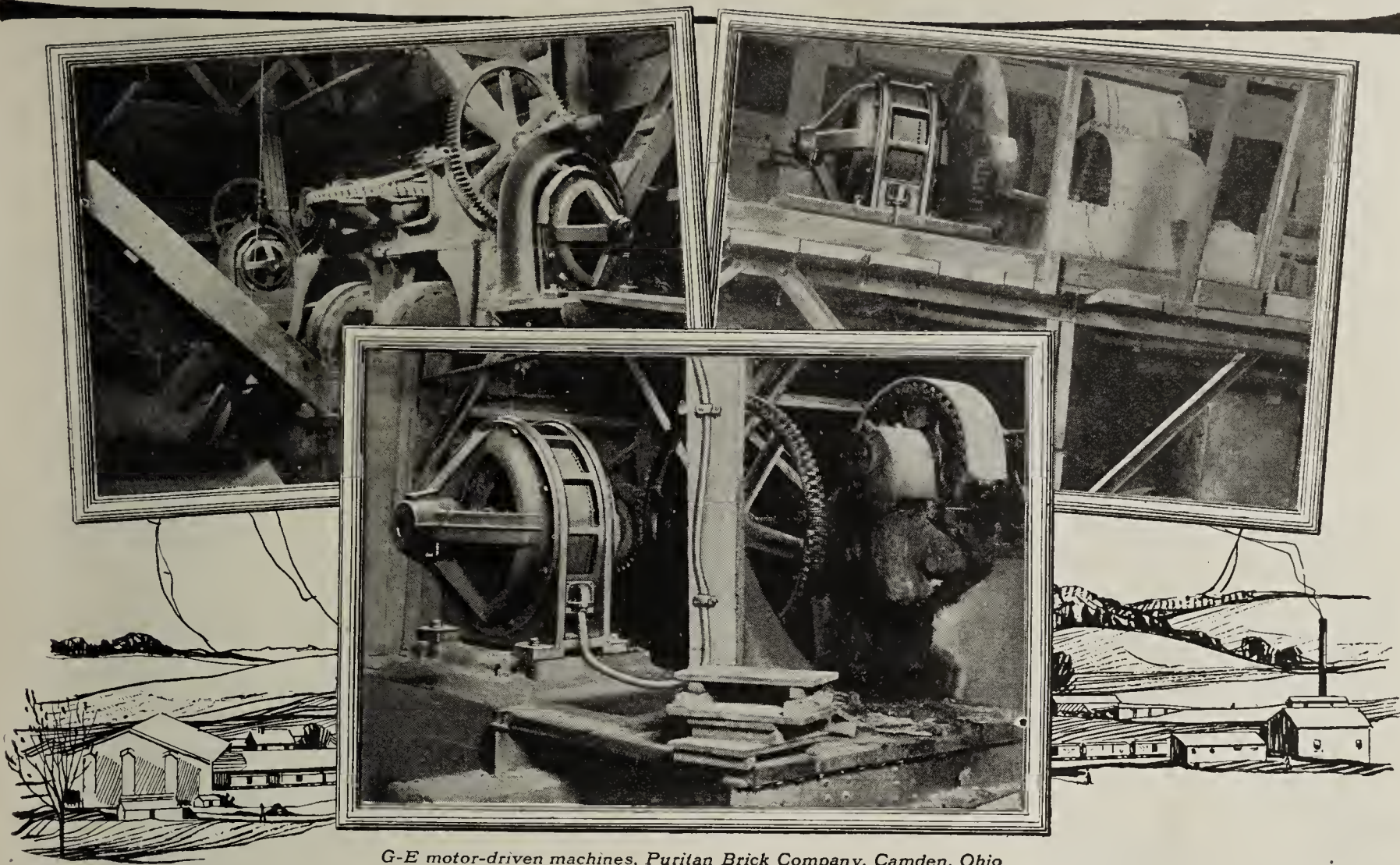
LINK-BELT SILENT CHAIN DRIVES

We Also Make

- ☐ Elevators and Conveyors
- ☐ Link-Belt and Sprockets
- ☐ Silent Chain Drives
- ☐ Truck and Tractor Chains
- ☐ Electric Hoists
- ☐ Locomotive Cranes
- ☐ Wagon Loaders
- ☐ Coal and Ashes Systems

Write for Catalogs
Place X in Square

Labor shortage and high fuel costs are being met in leading brick plants by using economical and efficient electric power equipment.



G-E motor-driven machines, Puritan Brick Company, Camden, Ohio

25% Increased Output and 15% Less Power Cost

were the results obtained from G-E motor drive at one brick plant.

G-E motor drive eliminates line-shaft friction, reduces maintenance cost, runs each machine at its maximum productive speed and consumes no power when machines are not running.

Brick plants all over the country have installed G-E motors. Our engineers will be pleased to give you full details of a suitable drive for your plant.

General  **Electric**
General Office **Company** Schenectady, N.Y.



The MORRISON Chicago Built with "BROWN-BURNED" BRICK

KEYSTONE Clay Products Co., South Greensburg, Pa., burned the brick and used Brown Pyrometers to do it. This is one of those particular jobs where the amount of brick that's "just right" is dependent solely on the accuracy of the Pyrometer and the skill of the burner. The burner today who uses Pyrometers likes to use Brown's because they "stand pat" and deliver the goods.

Whether you burn common or face brick, building block or drain tile or fire brick, there is a Brown equipment that has proved itself most suited to that particular work. There is no more guess-work—Brown's have standardized brick burning. Write to the Brown Instrument Company Philadelphia, Pa., or one of their district offices in New York, Detroit, Pittsburgh, Chicago or St. Louis for details today.

Brown Pyrometers - *The World's Standard Heat Meters*

Trade Names Now in Use

on Face Brick and Other Clay Products

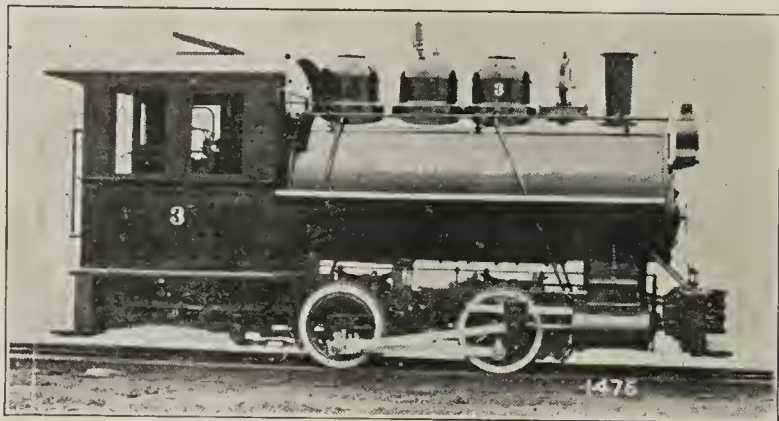
The purpose of this directory is two-fold: it serves to prevent a manufacturer from adopting a trade-name that is already in use—and it also helps manufacturers who use it to establish priority of claim to a name.

- ALLIANCE RUFFS—Alliance (O.) Brick Co.
 ARMOR—Greenpoint Fire Brick Co., Brooklyn, N. Y.
 ARTISTICO—Capital Clay Co., Des Moines, Ia.
 ARTORIQUE—Yingling-Martin Brick Co., Johnsonburg, Pa.
 ATIENA—Hocking Valley Fire Clay Co., Nelsonville, Ohio.
 BEAVERCLAY—Beaver Clay Mfg. Co., New Galilee, Pa.
 BURLAP—Key-James Brick Co., P. O. Alton Park, Tenn.
 CALEDONIAN—Fiske & Co., Inc., Boston and New York.
 CITADEL—Citadel Brick & Paving Block Co., Ltd., Quebec.
 CLAYTEX—Walton N. Cable, New York City.
 CLAYTON MISSIONS—Washington Brick, Lime & Sewer Pipe Co., Spokane, Wash.
 CLAYTON VELVETS—Washington Brick, Lime & Sewer Pipe Co., Spokane, Wash.
 CLOISTER—Western Brick Co., Danville, Ill.
 COLONIAL—Capital Clay Co., Des Moines, Ia.
 COLUMCLAY—Columbia Clay Co., Columbia, S. C.
 CORDOVA (Roofing Tile)—Gladding, McBean & Co., San Francisco and Lincoln, Cal.
 CORSWEVE—Thomas Moulding Brick Co., Chicago, Ill.
 CROWN—Green Fire Brick Co., A. P., Mexico, Mo.
 DENISON—Mason City (Ia.) Brick & Tile Co.
 DE LUXE—The Standard Brick Company, Crawfordsville, Ind.
 DIAMOND—Missouri Fire Brick Co., St. Louis, Mo.
 DORIC—Western Brick Co., Danville, Ill.
 DUNBAR—United Refractories Co., Uniontown, Pa.
 EGYPTIAN PAVING BLOCK—Murphysboro (Ill.) Paving Brick Co.
 ELKCO—Elk Fire Brick Co., St. Marys, Pa.
 ELKCO SPECIAL—Elk Fire Brick Co., St. Marys, Pa.
 ELK LADLE—Elk Fire Brick Co., St. Marys, Pa.
 ELK STEEL—Elk Fire Brick Co., St. Marys, Pa.
 EMBOSTEX—Streator (Ill.) Brick Co.
 EMPIRE—Green Fire Brick Co., A. P., Mexico, Mo.
 EMPIRE—Western Brick Co., Danville, Ill.
 EVERHARD ANTIQUE—Everhard Co., Massillon, O.
 EVERHARD DOUBLE-TEXTURE—Everhard Co., Massillon, O.
 EVERHARD FERN-LEAF—Everhard Co., Massillon, Ohio.
 EVERLASTING—Mason City (Ia.) Brick & Tile Co.
 FALLSTON IRON SPOTS—Fallston Fire Clay Co., Pittsburgh, Pa.
 FALLSTON WEAVETEX—Fallston Fire Clay Co., Pittsburgh, Pa.
 FISKLOCK—Fiske & Co., Inc., Boston and New York.
 FRASERCLAY—Fraser Brick Co., Dallas, Texas.
 FUL-TONE—Fultonham-Texture Brick Co., East Fultonham, Ohio.
 FULTONHAM, TEXTURE — Fultonham-Texture Brick Co., East Fultonham, Ohio.
 GOTHIC—Western Brick Co., Danville, Ill.
 GREENDALES—Hocking Valley Pro. Co., Columbus, O.
 GREENDALE RED RUGS—Hocking Valley Pro. Co., Columbus, O.
 GREENDALE RUGS—Hocking Valley Pro. Co., Columbus, O.
 GRID—Fiske & Co., Inc., Boston and New York.
 HAWK-I-TEX—Capital Clay Co., Des Moines, Ia.
 HI-GRADE—Southwest Building Supply Co., Springfield, Mo.
 HOCKING BLOCK—Hocking Valley Brick Co., Columbus, O.
 HOLLAND SPLIT—Thomas Moulding Brick Co., Chicago, Ill.
 HOMESPUN—Thomas Moulding Brick Co., Chicago, Ill.
 INTERLOCKING TILE—Fraser Brick Co., Dallas, Texas.
 IRONCLAY—Iron Clay Brick Co., Columbus, O.
 KEYSTONE—Elk Fire Brick Co., St. Marys, Pa.
 LAKE SHORE MINGLED SHADES—The Burton-Townsend Co., Zanesville, Ohio.
 LAKE SHORE BLOCK—The Burton-Townsend Co., Zanesville, Ohio.
 LO-GO-TE—Loogootee Fire Clay Products Co., Inc., Loogootee, Ind.
 LO-TEX BRICK—The Longmont (Colo.) Brick & Tile Co.
 LO-TEX TILE—The Longmont (Colo.) Brick & Tile Co.
 LOXALL—Exner, J. E., Coffeyville, Kan.
 M. D. ELK—Elk Fire Brick Co., St. Marys, Pa.
 MEDAL BLOCK—Medal Paving Brick Co., Cleveland, Ohio.
 MEXICO, MO.—Green Fire Brick Co., A. P., Mexico, Mo.
 MONTEZUMA RED FACE—Montezuma (Ind.) Brick Works.
 MOSAIC—Western Brick Co., Danville, Pa.
 MUSKOGEE RUG—Muskogee (Okla.) Vitri-fied Brick Co.
 NAVAJO—Kansas Buff Brick & Mfg. Co., Buffville, Kan.
 NUVOGUE—Boone (Ia.) Brick, Tile & Pav. Co.
 OLD ROSE COLONIAL—Montezuma (Ind.) Brick Works.
 OLEAN BLOCK—Sterling Brick Co., Olean, N. Y.
 PERSIAN SPLIT—Thomas Moulding Brick Co., Chicago, Ill.
 "POTTRY"—B. Mifflin Hood Brick Co., Atlanta, Ga.
 PROMENADE—Yingling-Martin Brick Co., Johnsonburg, Pa.
 RAINBOW — Burton Townsend Co., The, Zanesville, Ohio.
 RED ROCK RUFFS—Auburn Shale Brick Co., Gettysburg, Pa.
 REYNOLDSVILLE—The Reynoldsville (Pa.) Brick & Tile Co.
 ROTEX—Elk Fire Brick Co., St. Marys, Pa.
 RUFTEX—Thomas Moulding Brick Co., Chicago.
 RUG—Hocking Valley Pro. Co., Columbus, O.
 RUSTIQUE ORIENTAL—Martinsville (Ind.) Bk. Co.
 ST. MARYS—Elk Fire Brick Co., St. Marys, Pa.
 SHALE-TEX—Streator (Ill.) Brick Co. Sheffield Tile Co., Sheffield, Iowa.
 SHEFFIELD—Sheffield Brick & Tile Co. and
 SIL-O-CEL—Celite Products Co., New York City.
 SPECIAL—Green Fire Brick Co., A. P., Mexico, Mo.
 SPEEDWAY BLOCK—Alliance (O.) Clay Prod. Co.
 STANDARD—Green Fire Brick Co., A. P., Mexico, Mo.
 STRANGER REDS—The Reynoldsville (Pa.) Brick & Tile Co.
 STAR FIRE BRICK—Star Clay Products Co., San Antonio, Tex.
 STAR FIRE PROOF HOLLOW BUILDING TILE—Star Clay Products Co., San Antonio, Tex.
 SYKESVILLE—The Reynoldsville (Pa.) Brick & Tile Co.
 TAPESTRY—Fiske & Co., Inc., Boston and New York.
 TAVERN BRICK—Metropolitan Pav. Brick Co., Canton, O.
 TELCO—Terra Cotta Lumber Co., P. O. Em-maton, Cal.
 TEXTUR—Thomas Moulding Brick Co., Chicago, Ill.
 TIFFANY—Thomas Moulding Brick Co., Chicago, Ill.
 TORONTO—Toronto Fire Clay Co., Toronto, O.
 TOWNSEND BLOCK—The Burton-Townsend Co., Zanesville, Ohio.
 TURKESTAN—Beaver Clay Mfg. Co., New Galilee, Pa.
 TURKO—Rochester (Pa.) Clay Products Co.
 UNITED—United Refractories Co., Uniontown, Pa.
 U. R. CO.—United Refractories Co., Uniontown, Pa.
 U-TEX—Fultonham-Texture Brick Co., East Fultonham, Ohio.
 VERTEX—Beaver Clay Mfg. Co., New Galilee, Pa.
 VICTORY FIRE BRICK—Liberty Refractories Corp., Pittsburgh, Pa.
 VITRI-CRAFT—Schuylkill Valley Vitri-fied Products Co., Oaks, Montgomery Co., Pa.
 VOLCANIC—Beaver Clay Mfg. Co., New Galilee, Pa.
 WIRE-CUT LUG BRICK—Dunn Wire-Cut Lug Brick Co., Conneaut, Ohio.

Brick and Clay Record Buyers' Directory of Manufacturers of Machinery, Equipment and Supplies

See Table of Contents Page for Advertisers Directory

Aerial Tramways. Broderick & Bascom Rope Co. Leschen & Sons Rope Co., A.	Rosendale-Reddaway Belting Co. Scandinavia Belting Co. Stanley Belting Co. U. S. Rubber Co.	Boiler Insulation. Armstrong Cork & Insulation Co. Cellite Products Co.	Carbonate of Barytes. Roessler Hasslach Chem. Co. Rollin Chemical Co.	Clamshells. Osgood Company, The	Coloring. Williams & Co., C. K.
Automobile Trucks. Federal Motor Truck Co. Garford Motor Truck Co. Kissel Motor Car Co. Selden Truck Sales Co. White Company.	Belt Conveyors. Caldwell & Son Co., H. W. Gandy Belting Co. Goodyear Tire & Rubber Co. Imperial Belting Co. International Clay Mach. Co. Lancaster Iron Works, Inc. Link-Belt Company. Manufacturers Equipment Co. Morse Chain Co. Rosendale-Reddaway Belting Co.	Bonds Morgan & Co., F. W.	Cars. Chase Fdry. & Mfg. Co. Fate Co., J. D. Hendrick Manufacturing Co. International Clay Mach. Co. Fate Company, J. D. Koppel Industrial Car and Equipment Co. Lancaster Iron Works. Manufacturers Equipment Co. Steele & Sons, J. C. Toronto Fdry. & Machine Co. Watt Mining Car Wheel Co. Weller Mfg. Co.	Clay Feeders and Mixers. American Clay Machy. Co. Bonnot Company. Fate Co., The J. D. Chambers Bros. Co. Freese & Co., E. M. International Clay Mach. Co. Lancaster Iron Works. Manufacturers Equipment Co. Marion Mach., Fdry Sup. Co. Steele & Sons, J. C. Stevenson Co.	Condensers. Westinghouse Electric & Mfg. Co.
Babbitt Metal. Toronto Fdry. & Mach. Co.	Belt Fasteners Crescent Belt Fastener Co. Flexible Steel Lacing Co.	Brick Conveyors. Bonnot Co. Chambers Bros. Co.	Car Movers. Caldwell & Son Co., H. W. Marion M., Fdry. & S. Co.	Clay Gatherers. Eagle Iron Works. Sauerman Bros. Schofield-Burkett Cons. Co.	Conveying Machinery. (See Elevators and Conveyors.)
Barium Carbonates. Rollin Chemical Co. Roessler Hasslach Chem. Co.	Belt Preservative. Cling-Surface Co.	Brick Handling Machinery. Mathews Gravity Carrier Co.	Castings. American Clay Machy. Co. Bonnot Co. Caldwell & Son Co., H. W. Chambers Bros. Co. International Clay Machy. Co. Lancaster Iron Works. Link-Belt Company. Manufacturers Equipment Co. Marion Steam Shovel Co., The Steele & Sons, J. C. Stevenson Co. Toronto Fdry. & Mach. Co.	Clocks. Hardingo Bros., Inc.	Conveyors (Portable). Barber-Greene Co. Lancaster Iron Works, Inc.
Barrows and Trucks. American Clay Machinery Co. Arnold-Creager Co. Bonnot Co. Chambers Bros. Co. Chase Fdry. & Mfg. Co. Fate Co., The J. D. Freese & Co., E. M. International Clay Machy. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Steele & Sons, J. C. Toronto Fdry. & Mach. Co. Weller Mfg. Co.	Belt Tighteners. Hill Clutch Co., The	Brick (Insulating). Cellite Products Co.	Cements (Insulating). Cellite Products Co.	Clutches. Caldwell & Son Co., H. W. Caldwell Co., W. E. Dodge Sales & Eng. Co. Hill Clutch Co. International Clay Machy. Co. Lancaster Iron Works, Inc. Link-Belt Company.	Couplings (Shaft and Friction). Hill Clutch Co., The
Barytes, Carbonate of. Roessler Hasslach Chem. Co. Rollin Chemical Co.	Blasting Accessories. Atlas Powder Co. E. I. duPont de Nemours & Co.	Brick Machines. (See "Dry Press," "Stiff-Mud" and "Soft-Mud.")	Chain Caldwell & Son Co., H. W. Link-Belt Company. Morse Chain Co. Union Chain & Mfg. Co.	Coal. Dering Coal Co., J. K. Old Ben Coal Co. Power Coal Co.	Cranes, Locomotive. Ball Engine Co. Link-Belt Company Marion Steam Shovel Co., The Osgood Co.
Bearings. Caldwell & Son Co., H. W. Hill Clutch Co., The	Blasting Powder. Atlas Powder Co. E. I. duPont de Nemours & Co.	Buckets, Dredging and Excavating. Ball Engine Co. Marion Steam Shovel Co., The	Cables. Broderick & Bascom Rope Co. Leschen & Sons Rope Co., A.	Coal Handling Machinery. Godfrey, John F. Hendrick Manufacturing Co. Link-Belt Company.	Crushers and Pulverizers. American Clay Machy. Co. American Pulverizer Co. Bonnot Co. Chambers Bros. Co. Fate Co., J. D. Freese & Co., E. M. International Clay Machy. Co. K-B Pulverizer Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Stevenson Co. Toronto Fdry. & Mach. Co.
Belting. Gandy Belting Co. Goodyear Tire & Rubber Co. Imperial Belting Co. Main Belting Co.	Boilers. (See Engines and Boilers)	Buckets, Elevator. Hendrick Manufacturing Co. Link-Belt Company	Cable Conveyors. Broderick & Bascom Rope Co. Caldwell & Son Co., H. W. Leschen & Sons Rope Co., A.	Coal Pulverizers. Bonnot Co.	Cutters, Automatic Rotary. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Fate Co., J. D.



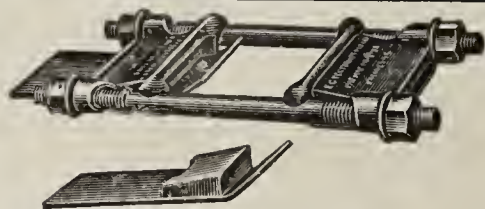
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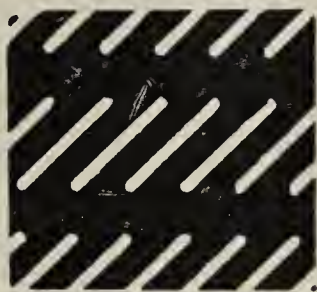
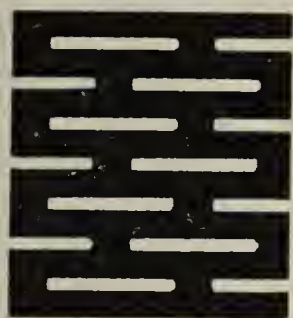
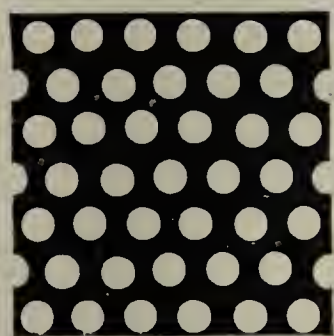
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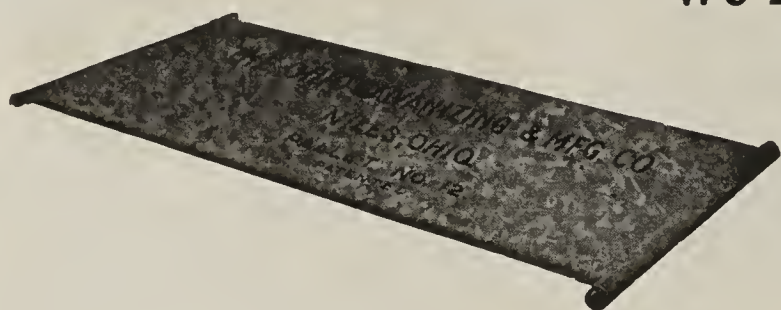
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Cutting Wires. Broderick & Bascom Rope Co. Manufacturers Equipment Co.	Dredges. Marion Steam Shovel Co., The Osgood Company, The	Dynamite. Atlas Powder Co. E. I. duPont de Nemours & Co.	Excavating Machinery. Ball Engine Co. Link-Belt Company. Marion Steam Shovel Co., The Osgood Company, The Sauerman Bros. Schofield-Burkett Cons. Co. Thew Automatic Shovel Co.	Flower Pot Machinery. Baird Machine & Mfg. Co.	
Dies. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Fate, J. D., Co. Freese & Co., E. M. International Clay Mch. Co. Manufacturers Equipment Co. Steele & Sons, J. C. Stevenson Co. Toronto Fdry. & Mach. Co. Weller Mfg. Co.	Drills. Sanderson-Cyclone Drill Co.	Dynamos and Generators. General Electric Co. Westinghouse El. & Mfg. Co.		Flue Cleaners. Marion Mach., Fy. & Sup. Co.	
	Drives (Silent Chain). Link-Belt Company Morse Chain Co.	Electric Lamp Guards. Flexible Steel Lacing Co.	Excavators, Ditch and Trench. Buckeye Traction Ditcher Co. Marion Steam Shovel Co.	Friction Clutches. Hill Clutch Co., The	Grates and Grate Bars. Canton Grate Co. Furnace Gas-Producer Co. International Clay Machy. Co. Manufacturers Equipment Co. Marion Mach., Fdry. & S. Co. Toronto Fdry. & Mach. Co.
Digger. Buckeye Traction Ditcher Co.	Driers. American Clay Machy. Co. Bonnot Co. Fate, J. D., Co. International Clay Machy. Co. Lancaster Iron Works. Manufacturers Equipment Co. Philadelphia Textile Machy Steele & Sons, J. C.	Electrical Industrial Trucks. Elwell-Parker Electric Co. Koppel Industrial Car and Equipment Co.	Excavators, Dragline. Marion Steam Shovel Co. Sauerman Bros. Schofield-Burkett Cons. Co.	Furnace Insulation. Armstrong Cork & Insulation Co. Cellto Products Co.	Gravity Carriers. Mathews Gravity Carrier Co.
Digging Machinery. American Clay Machy. Co. Ball Engine Co. Link-Belt Company. Marion Steam Shovel Co. Osgood Company. Sauerman Bros. Schofield-Burkett Cons. Co. Thew Automatic Shovel Co.	Driers (Sand) American Clay Machy. Co. Bonnot Company. Fate Co., J. D. Lancaster Iron Works, Inc. Stevenson Co.	Elevators and Conveyors. American Clay Machy. Co. Bonnot Co. Caldwell & Son Co., H. W. Chambers Bros. Co. Fate Co., J. D. Freese & Co., E. M. Gandy Belting Co. Godfrey, John. International Clay Mch. Co. Lancaster Iron Works, Inc. Link-Belt Company. Main Belting Co. Manufacturers Equipment Co. Mathews Gravity Carrier Co. Stevenson Co. Toronto Fdry. & Mach. Co.	Explosives. Atlas Powder Co. E. I. duPont de Nemours & Co.	Galvanometers (For Testing Blasting Circuits). E. I. duPont de Nemours & Co.	Guards (Electric Lamp). Flexible Steel Lacing Co.
Disintegrators. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Fate Co., J. D. Freese & Co., E. M. International Clay Mch. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Marion M. Fdry. & Sup. Co. Steele & Sons, J. C.	Dry Pans. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Eagle Iron Works. Fate Co., J. D. Freese & Co., E. M. International Clay Mch. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Stevenson Co. Toronto Fdry. & Mach. Co.	Engineers. Diller-March Co. Schaffner Engineering & Equipment Co., The	Fans. American Clay Machy. Co. Bonnot Co. Freese & Co., E. M. International Clay Mch. Co.	Gas Producers. Furnace Gas-Producer Co. International Clay Mch. Co.	Heat Insulation. Armstrong Cork & Insulation Co. Celite Products Co.
			Feed Water Heaters. Canton Grate Co. Freese & Co., E. M.	Gears. Caldwell Co., W. E. Caldwell & Son Co., H. W. Baird Machine & Mfg. Co. General Electric Co. Hill Clutch Co., The Link-Belt Company. Morse Chain Co. Westinghouse Electric & Mfg. Co.	Hoists. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Fate Co., J. D. Godfrey, John F. International Clay Mch. Co. Lancaster Iron Works, Inc. Link-Belt Company. Manufacturers Equipment Co. Weller Mfg. Co.
			Filter Presses. American Clay Mach. Co. Bonnot Co. International Clay Mch. Co.		

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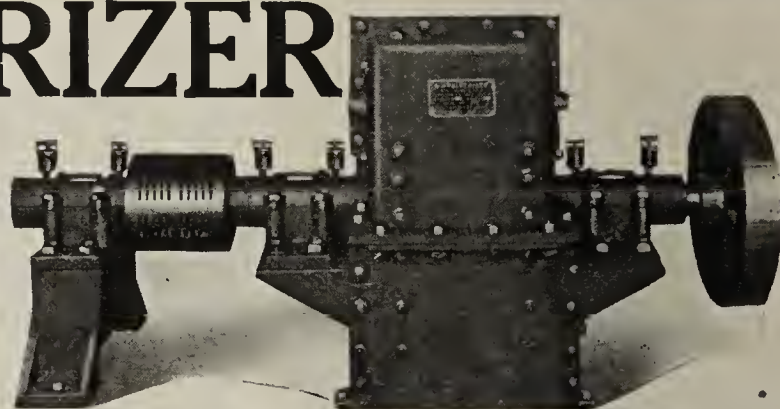
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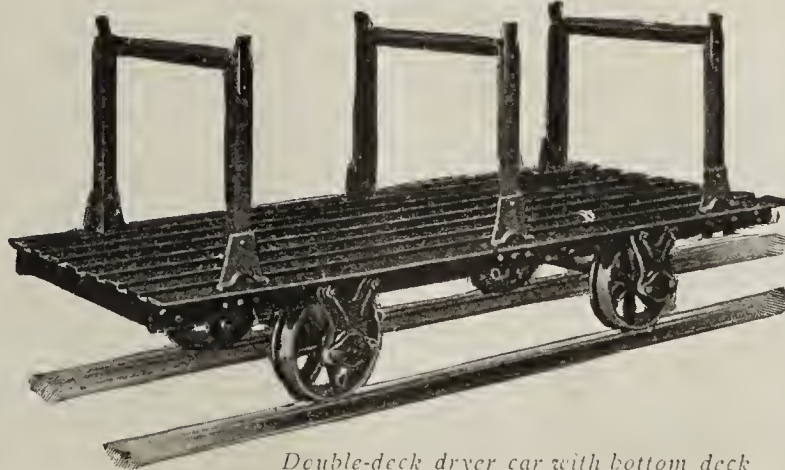
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Hose. Goodyear Tire & Rubber Co	Kiln Expert. Mason, H. V.	Mortar Colors. Ricketson Mineral Paint Wks. Williams & Co., C. K.	Pans, Dry Pans, Wet Pans, Clay or Chaser Mills Combination Tempering Pans. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Fate Co., J. D. Freese & Co., E. M. International Clay Mch. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Toronto Fdry. & Mach. Co. Stevenson Company.	Pumps (Steam). Pulsometer Steam Pump Co.	Pyrometers. Bristol Co. Brown Instrument Co. Engelhard, Chas. Leeds & Northrup Co. Price Electric Co. Taylor Instrument Companies Thwing Instrument Co.
Hydrometers or Moisture Indicators. Taylor Instrum't Companies. Lancaster Iron Works. Manufacturers Equipment Co.	Kiln Insulation. Armstrong Cork & Insulation Co. Celite Products Co.	Molds. American Clay Machy. Co. Arnold, Creager Co. Baird Machine & Mfg. Co. Bonnot Co. Lancaster Iron Works. Manufacturers Equipment Co.	Power Transmission. Caldwell Co., W. E. Caldwell & Son Co., H. W. Baird Machine & Mfg. Co. Dodge Sales & Eng. Co. Hill Clutch Co. International Clay Mch. Co. Link-Belt Company. Morse Chain Co.	Railroad Ditchers. Ball Engine Co. Marion Steam Shovel Co., The Osgood Co.	Rails (Frogs and Switches). Buckeye Rolling Mill Co. Chase Fdry. & Mfg. Co.
Insulating Materials (Heat). Armstrong Cork & Insulation Co. Celite Products Co.	Lamp Guards (Portable). Flexible Steel Lacing Co.	Mold Sanders. American Clay Machy. Co. International Clay Mch. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co.	Pallets and Trays. Lancaster Iron Works, Inc. Ohio Galvanizing & Mfg. Co.	Pug Mills. American Clay Machy. Co. Baird Machine & Mfg. Co. Bonnot Co. Chambers Bros. Co. Fate Co., J. D. Freese & Co., E. M. International Clay Mch. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Steele & Sons, J. C. Stevenson Co. Toronto Fdry. & Mach. Co.	Rattler. American Clay Machy. Co. Bonnot Co. Freese & Co., E. M. Manufacturers Equipment Co.
Insurance. Reciprocal Insurance Bureau.	Loaders (Wagon and Truck). Link-Belt Company.	Motors—Electric. General Electric Co. Westinghouse El. & Mfg. Co.	Perforated Sheet Metal. Hendrick Mfg. Co. Harrington & King Perforating Co.	Recording Pressure Gages. Brown Instrument Co. Price Electric Co. Taylor Instrument Companies	Represses. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Freese & Co., E. M. International Clay Mch. Co. Steele & Sons, J. C.
Kilns. American Dressler Tunnel Kilns, Inc. American Clay Machy. Co. Chambers Bros. Co. Didler-March Co. Fate Co., J. D. Flint River Brick Co. International Clay Mch. Co. Manufacturers Equipment Co. Schaffer Eng. & Equip. Co. Zwermann, Carl.	Locomotive Cranes. Ball Engine Co. Link-Belt Company Marion Steam Shovel Co. Osgood Company, The	Motor Trucks. Federal Motor Truck Co. Garford Motor Truck Co. Kissel Motor Car Co. Selden Truck Sales Co. White Company.	Poidometer. Schaffer Eng. & Equip. Co	Pulley, Cast Iron. Caldwell & Son Co., H. W. Hill Clutch Co., The	Revolving Screens. Hendrick Manufacturing Co.
Manganese. Roessler & Hasslacher Chemical Co.	Mercury Column Vacuum Gages. Taylor Instrument Companies	Oil Burners. Lancaster Iron Works. Weller Mfg. Co.	Packaging. Goodyear Tire & Rubber Co	Pulverizers. American Pulverizer Co. K-B Pulverizer Co. Stevenson Co. Toronto Fdry. & Mach. Co.	



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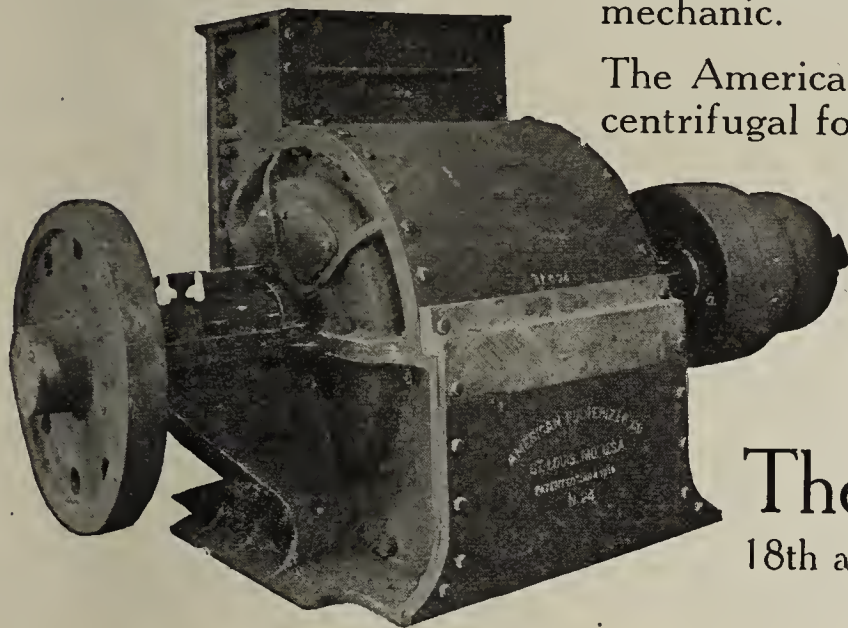
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Roofing Tile Machinery. American Clay Machy. Co. Bonnot Co. Fate Co., J. D. Freese & Co., E. M. International Clay Mch. Co.	Freese & Co., E. M. Harrington & King Perforat- ing Co. Hendrick Mfg. Co. International Clay Mch. Co. Lancaster Iron Works. Link-Belt Company. Schofield-Burkett Cons. Co. Stevenson Co. Weller Mfg. Co.	Silent Chain Drives. Link-Belt Company. Morse Chain Co.	Stokers. Westinghouse Electric & Mfg. Co.	Tires. Goodyear Tire & Rubber Co.	Valves. Goodyear Tire & Rubber Co. Jenkins Bros. Co.
Rope Drives. Hill Clutch Co., The	Rope (Wire and Manila). Broderick & Bascom Rope Co. Leschen & Sons Rope Co. Manufacturers Equipment Co. Waterbury Co.	Sleeves, Nozzles and Runner Brick Machy. Baird Machine & Mfg. Co.	Supplies. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Freese & Co., E. M. International Clay Mch. Co. Lancaster Iron Works Manufacturers Equipment Co. Steele & Sons, J. C. Stevenson Co. Toronto Fdry. & Mach. Co. Weller Mfg. Co.	Tramways (Aerial Wire Rope). Broderick & Bascom Rope Co. Leschen & Sons Rope Co., A.	Wagon and Truck Loaders. Link-Belt Company.
Rotary Dryers. Lancaster Iron Works, Inc.	Screw Conveyors. Caldwell & Son Co., H. W.	Smoke Consumers. Furnace Gas-Producer Co.	Tanks and Tank Towers. Caldwell Co., Inc., W. E. Hendrick Manufacturing Co. Lancaster Iron Works, Inc.	Transmission Machinery. Hill Clutch Co.	Watchman's Clocks. Hardinge Bros., Inc. Taylor Instrument Companies
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Sand Lime Brick Machinery. American Clay Machy. Co. Manufacturers Equipment Co.	Shafting. Hill Clutch Co., The Caldwell & Son Co., H. W.	Stacks. Hendrick Manufacturing Co. Lancaster Iron Works, Inc.	Thermometers Bristol Co. Brown Instrument Co. Engelhard, Chas. Price Electric Co. Manufacturers Equipment Co. Taylor Instrum't Companies Thwing Instrument Co.	Trucks (Motor) Federal Motor Truck Co. Garford Motor Truck Co. Kissel Motor Car Co. Selden Truck Sales Co. White Company.	Winding Drums. American Clay Machy. Co. Fate Co., The J. D.
Scrapers, Plows and Clay Gatherers. Eagle Iron Wks. Co. Sauterman Bros. Schofield-Burkett Cons. Co. Toronto Fdry. & Mach. Co.	Sheaves. Hill Clutch Co., The	Stiff Mud Brick Machines. American Clay Machy. Co. Arnold, Creager Co. Bonnot Co. Chambers Bros. Co. Fate Co., J. D. Freese & Co., E. M. International Clay Mch. Co. Steele & Sons, J. C.	Tile Machinery. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Fate Co., J. D. Freese & Co., E. M.	Trucks (Industrial, Electric) Elwell-Parker Electric Co. Koppel Industrial Car & Eq. Co.	Wire Rope. Broderick & Bascom Rope Co. Leschen & Sons Rope Co. Manufacturers Equipment Co. Waterbury Co.

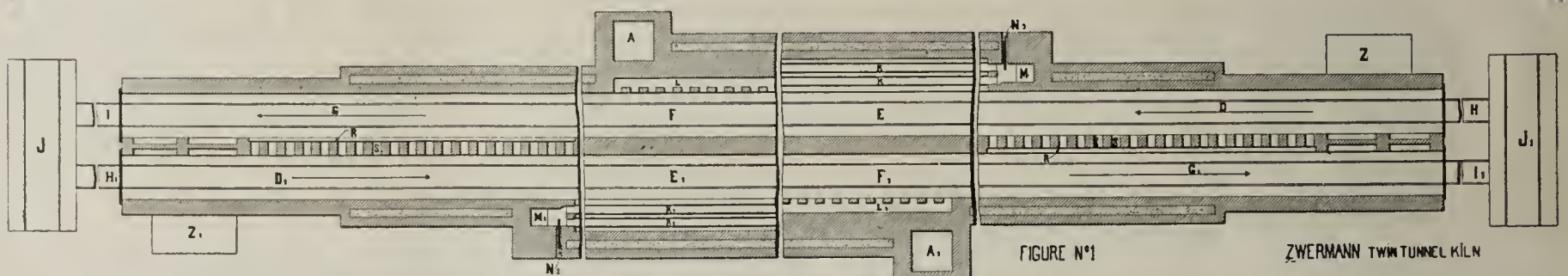
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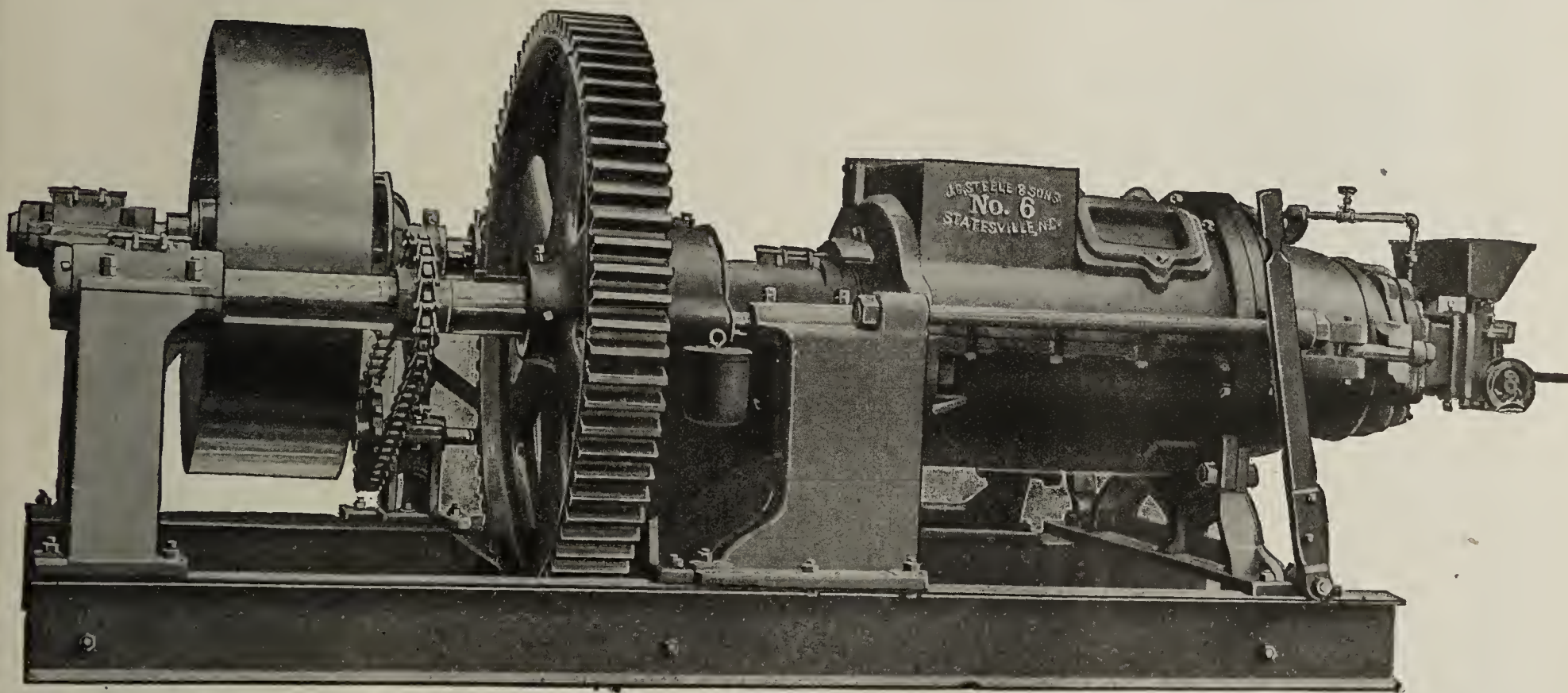
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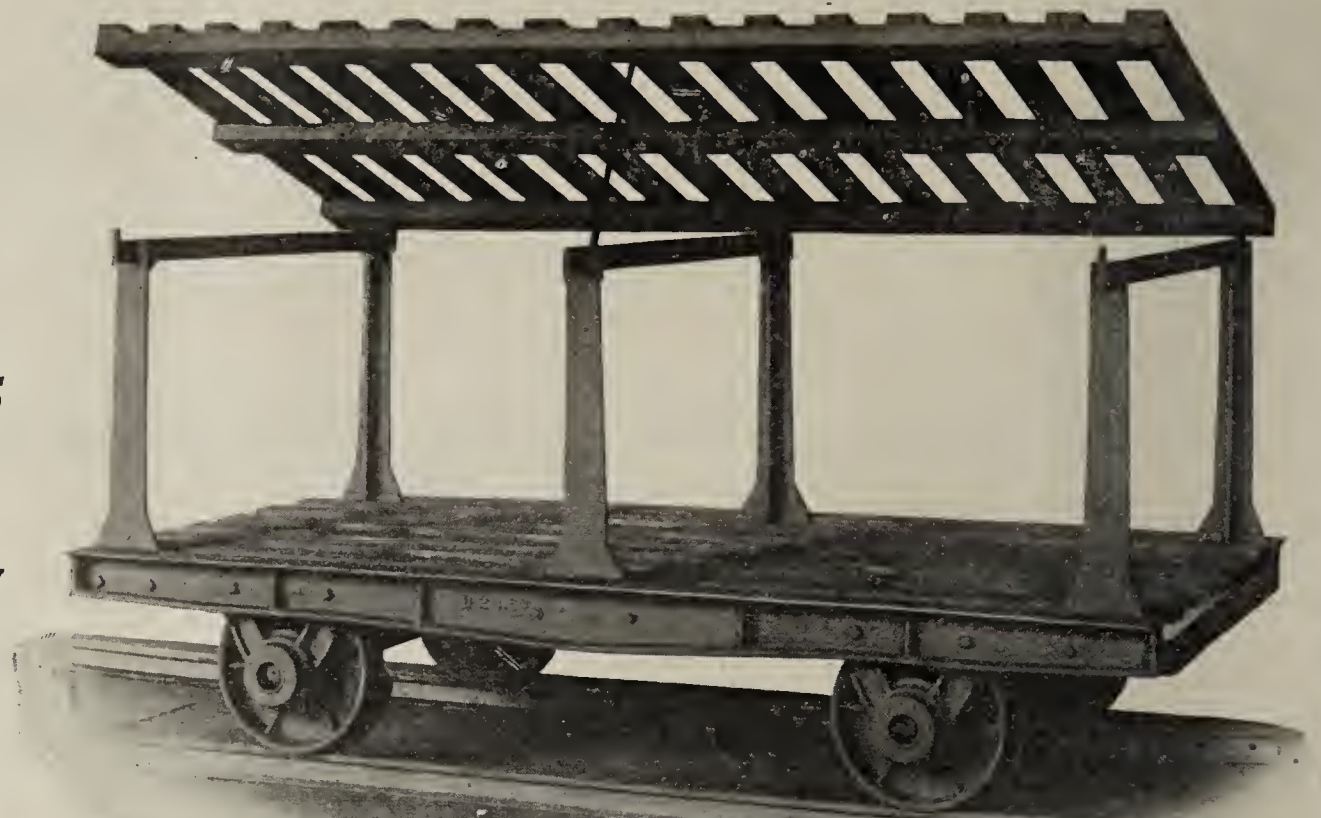
Ours Are Proportioned Right. Five Sizes.



J. C. STEELE & SONS - - Statesville, North Carolina

We Make
DRYER CARS
of Any Size
and Description
TRANSFER
CARS
TURNTABLES
WHEEL
BARROW
WHEELS

*Send for our Booklet
 and let us figure on
 your requirements.*



PETTIGREW FOUNDRY CO.
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WHAT DO YOU DO?

It is probable that a new problem presents itself to you—or to some of your associates at least once each week. Do you solve it satisfactorily or do you let it slide? Why not insure yourself against such incidents? Start a factory library, fill it with a few choice books that deal with your plant and manufacturing problems. From this list you should be able to select a splendid assortment.

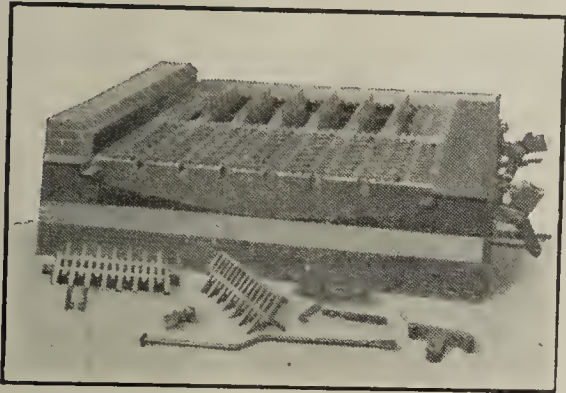
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Select those books that you want the most, and we will send them to you postpaid upon receipt of price. No books sent on approval. All foreign books subject to 15% import duty.

Brick and Clay Record

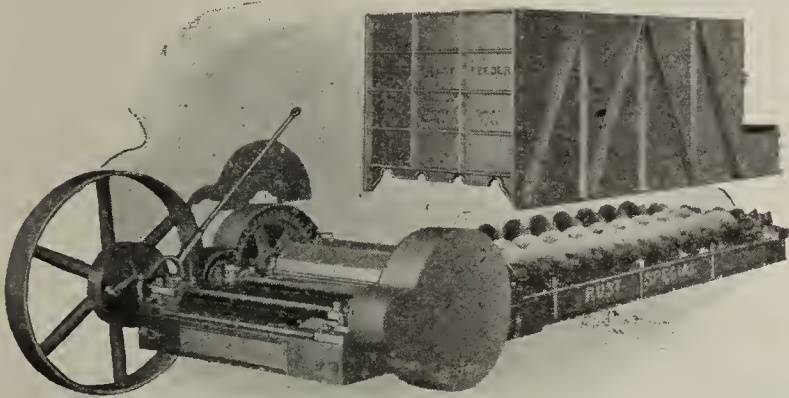
610 Federal St.,
 Chicago, Illinois

Are You Profiting by This Equipment?



Marion Scottdale Grate

Marion Scottdale Grates are recommended not only because they save fuel, but because they continue to pay their owners dividends long after they have repaid their first cost. They are made extra strong, of sound, well knit iron. They don't crack or burn. Grate bar spaces remain open at all times, assuring a clean, economical fire. Our booklet on grates is worth dollars to anyone in charge of boiler rooms. It is yours for the asking. Send for it.



"Rust Special" Clay Feeder and Mixer Feeder Box and Part of Housings Removed

Note that all gears are protected by housings, which keep out dust and dirt. All gears run in oil. Machine is made extra heavy for hard work and big production. It takes heavy loads, feeds itself, and delivers to dry-pan or pug mill without requiring any attention, thus relieving one or two men for other work. As the spirals run slowly, machine consumes comparatively little power. It has speeded up production and reduced cost of operation in many plants. We guarantee it to do the same for you. Ask for special bulletin.

Marion Rotary Soot Blower



The Rotary Soot Blower will save you fuel and prevent boiler corrosion by keeping boiler tubes clean. It enables fireman or engineer to clean tubes while boiler is in operation without opening up front of boiler and letting in cold air, thus preventing seams and flues from leaking. It turns a disagreeable job into a profit making asset by lengthening the life of your equipment. We also make soot blowers for all types of water tube boilers. Guaranteed. Literature on request.

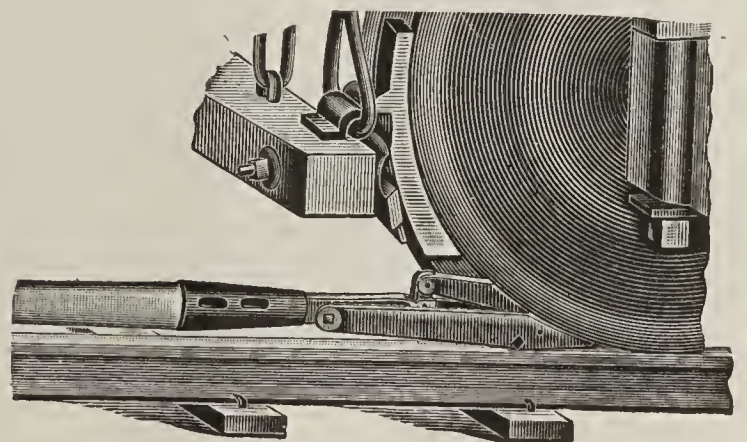
Keystone Portable Kiln Grate

This is an ideal kiln grate. It keeps fires clean and eliminates "breaking down fires," assuring complete control of kiln temperatures. The Keystone Portable Kiln Grate fills a long felt want in hundreds of brick and tile plants. Can be taken from kiln to kiln in no time. No intricate parts—easy to repair or replace sections.



Alexander Patent Water Gauge

This gauge has a movable soft lead plug, one end of which fits or rests against valve seat. When lead plug wears down and allows gauge to leak, simply give ball one-half turn, which cuts a new seat. The Alexander plug is easy to operate, and will last a long time. Specially priced at \$1.45 (one extra lead plug FREE). Satisfaction guaranteed, subject to return and full credit given.



Atlas Car Mover

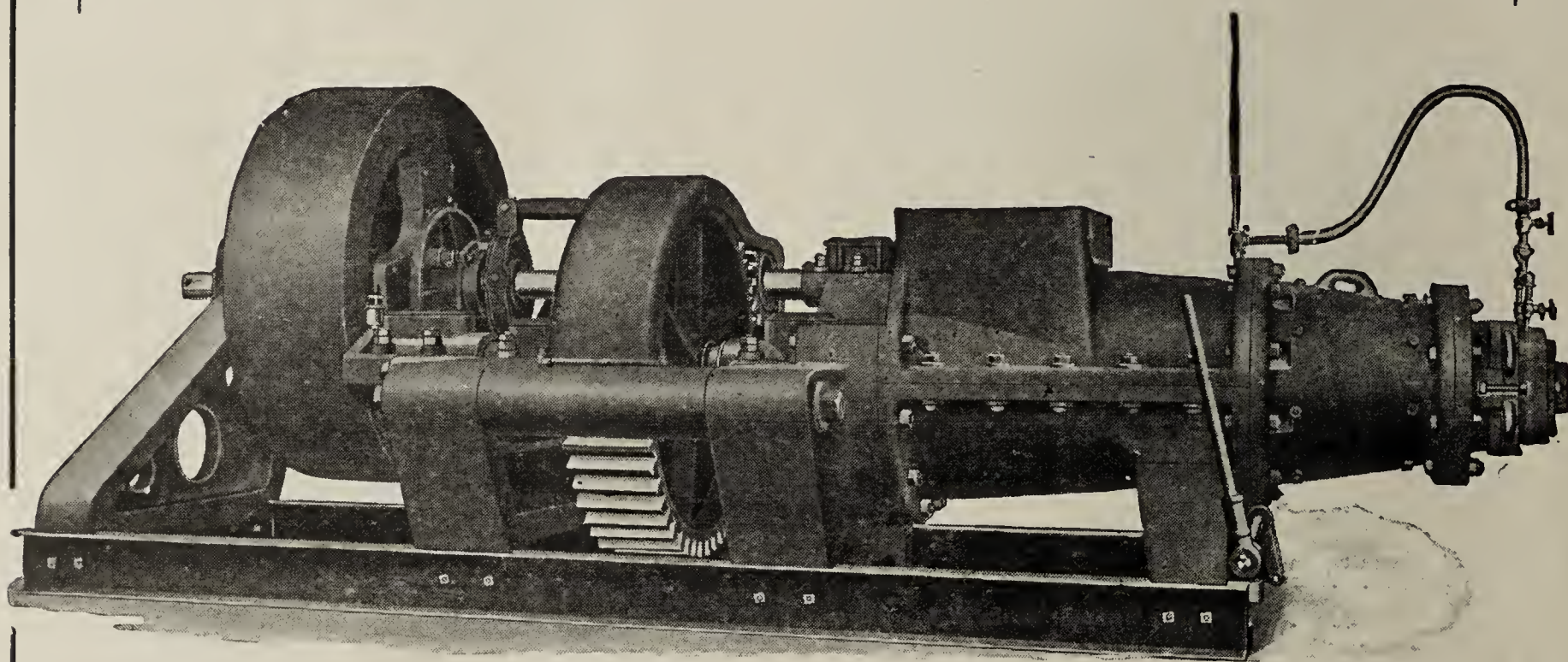
One man can move a loaded car easily with an Atlas Car Mover. It is the best and most powerful device ever made for starting and moving loaded cars by hand. It doesn't lift the car wheel, but uses its force in pushing the wheel forward. It is a labor and time saver. Order one today for \$5, F. O. B. Marion, and we will guarantee satisfaction, or return full credit.

Marion Machine, Foundry & Supply Co.

P. O. Box 395, Marion, Indiana

We have just issued a well printed, fully illustrated 68-page Catalog, entitled, "Marion Power Plant Equipment," which not only explains the dependable Marion Line, but also will serve as a valuable handbook for anyone interested in power plant operation. Write for it at once.

The Model GC is a satisfactory machine. It has no fast-running gears, neither wearing itself out quickly nor shaking itself to pieces; it is as accessible as a machine can be built, insuring quick and accurate repair work; it is a strong, powerful machine built for Continuous Operation.



Model GC Auger Brick Machine

E. M. Freese & Company
GALION, OHIO

Dependable Machinery of Proven Efficiency

Classified Advertisements

Classified advertisements are inserted at the following rates: First insertion, eight cents per word, the captions "For Sale," "Wanted," and address, to be counted as a part of the ad. Additional insertions, six cents per word per insertion. No advertisement inserted for less than \$1.00 per insertion. Cash must accompany all orders to insure insertion.

WANTED—HELP

WANTED—One of the best equipped plants in the South needs a first-class experienced superintendent who has sufficient experience and is thoroughly capable to produce results on a stiff-mud brick plant. Also need three experienced brick setters. Address: 52-S-B, care of "Brick and Clay Record." 5-2-3

SUPERINTENDENT WANTED—For common building brick plant, American Clay Machinery, Hoffman Continuous Kiln. Must be competent. Give full particulars first letter. Address: 62-BO, care of "Brick and Clay Record." 62-1

WANTED—By an old established industry, a man with brains and energy, to manage the setting, burning and shipping in a drain tile factory of 100 tons daily capacity. Address: 62-Est, care of "Brick and Clay Record." 62-2

WANTED SUPERINTENDENT—For hand-made fire-brick plant. Give full particulars. Address: 62-FB, care of "Brick and Clay Record." 62-1

WANTED—Experienced sewer pipe setter. State age and nationality first letter. Address: 62-Setter, care of "Brick and Clay Record." 62-TF

WANTED—POSITIONS.

POSITION WANTED—Man who has had 16 years' experience around clay plants desires place as superintendent or would go with clay machinery company. Age 36, good burner, draftsman, and a good mechanic. One who knows what is required to keep machinery going. Address: 42-A, care of "Brick and Clay Record." 4-2-TF

WANTED—Position as superintendent or manager for stoneware plant. I have my own China Body, China glaze and Stoneware glazes. Address: 5-C, care of "Brick and Clay Record." 5-2

WANTED—Situation as superintendent of brick or tile plant. Am fully competent as a Manager and also as a burner; familiar with all kinds of kilns, etc. A man of mature years and good habits and will guarantee efficient service and good results. Address: 62-Compt, care of "Brick and Clay Record." 62-1

WANTED—To eliminate your troubles or superintend plant by clay expert of 21 years' practical experience high grade face, paving or hollow ware. Address: 62-Expert, care of "Brick and Clay Record." 62-1P

WANTED POSITION—As superintendent of sewer pipe works. 25 years' experience in the business from clay pit to cars. Address: 62-SP, care of "Brick and Clay Record." 62-1

WANTED—EQUIPMENT

WANTED—To rent gasoline haulage locomotive for quarry use, with option of purchase if satisfactory for our work. The Higby Canyon Sand Co., Ottawa, Ill. 6-2P

WANTED—1 disintegrator, 1 side-cutting table, 1 winding drum, 2 raising and lowering cars, 2 transfer cars, 1 clay elevator, 2 1½-yd. clay cars. Address: 6-B, care of "Brick and Clay Record." 6-2

WANTED

36" gage, V shape, all metal, 2-way rocker, side dump cars. Send full description, photographs, price. Address: 5-Cars, care of "Brick and Clay Record." 5-4X

FOR SALE—CLAY LAND

FOR SALE—Large tract of fire-clay land in Southern Pennsylvania. Well known vein, hard and soft clay; best in state. Layer of steam coal. Good railroad facilities. Address: P. O. Box 584, Philadelphia, Pa. 6-5

FOR SALE—CLAYWORKING PLANTS.

FOR SALE—Owner desiring to retire from active business will sacrifice an up-to-date brick plant of sixty thousand daily capacity, located in Ohio and now operating. Established trade on high-grade fire, face and paving brick. Will retain interest and grant desirable terms to reliable parties if it is desired. Responsible people seeking an attractive investment are invited to investigate this proposition. Address: 4-B, care of "Brick and Clay Record." 4-TF

FOR SALE—2 kiln tile and brick plant, Fate machinery, electric power, Hook kilns, own switch to kilns, 50 acres elegant land. Local sale for entire output, and a money-maker. Reason for selling—senior partner 75 years old, wants to retire. Junior partner has other business. Will exchange for government bonds or good farm land. Full particulars on request. Address: "Tile Mill," 218-219 American Bldg., Hicksville, Ohio. 62-2P

FOR SALE—Hollow building tile and farm drain tile plant; plenty of clay; 150 tons capacity. Modern, up-to-date plant, best location in Texas. Two trunk lines and two branch railroads. Only plant in Texas manufacturing red farm drain tile. Majority of stock owned by retired millionaires and will sell cheap. Long time, low interest. This is your opportunity. B. E. Norvell, 415 Beatty Bldg., Houston, Texas. 62-2

FOR SALE—BRICK PLANT in Northwest, on two railroads, sidetrack to kiln. Will sell for \$3,500 (\$2,000 in brick, balance in cash on your own terms). Contracts on hand for \$2,000 worth of brick at profit of \$7.00 per M. Reason for selling: old age. Address: 6-Bargain, care of "Brick and Clay Record." 6-3P

FOR SALE—First class common brick plant in good location, splendid clay—now making 35,000 brick daily. Good for Six Thousand Dollars net annually. Will take part payment in brick. A fine chance for the right party. Flambeau River Lumber Co., Ladysmith, Wis. 6-3

FOR SALE—Common brick plant. Going concern manufacturing soft and stiff mud brick, both air and steam drying. Production never equal to demand, supplying large territory including the great automobile manufacturing city of Flint, Mich. Low price for quick sale. L. J. and C. E. Scholl, Clio, Mich. 62-2

FOR SALE—A small, very modern and complete face-brick and fire-brick factory located near New York City with good clay deposit and excellent shipping facilities. Death of principal owner offers unusual opportunity for its purchase. Address: 62-Modern, care of "Brick and Clay Record." 62-1

FOR SALE—Manhattan Brick Yards at Mountain View, near Paterson, N. J. 34 acres of best clay lands; large railroad switch on D. L. & W. R. R. Inquire Kuhn & Muller, Inc., Colt Building, Paterson, N. J. 62-4P

FOR SALE—Tile plant alongside of B. & O. R. R. in running operation now. Will sell reasonable. Inquire of: Anna Tile Plant, Anna, Ohio. 62-1

FOR SALE—USED MACHINERY

FOR SALE—One No. 10 Bonnot Brick Machine with cutting table. Capacity three to four thousand per hour. This machine is in fair working condition, and is being used at present, but will be replaced by a larger machine. Thickness of brick 2½ inches. Extra platen for paving block four inches thick. Also, one piano wire screen. Sharon Clay Products Company, Sharon, Pa. 6-2

SELECT MACHINERY AND SUPPLIES

One 4-mold Boyd Dry Press; 1 9-ft. Dry Pan and 1 9-ft., heavy duty Wet Pan. These Pans were never installed; 1 medium size American Tile and Brick Machine, hand cutter; 1 American Rotary Roofing Tile Press; 1 10-ft. steel and iron Pug Mill 30"x36" tub; 1 20-inch Disintegrator; 1 Hoisting Drum; 2,000 ft. kiln bands; 2,000 gal. Pallets; 2,500 reinforced steel Pallets; 1,000 flat steel Pallets; 200 ft. ½-inch Haulage Cable; 100 Standard Rack Dryer Cars; 100 double deck Dryer Cars, Atlas make; 48 ft. 12-inch Gandy Belting, suitable for elevator. Address: C. H. Horton Co., Painesville, Ohio. 5-TFX

DISMANTLING NEW BRICK PLANT—Raymond Combination No. 1 Brick Machine \$600. Freese C-16 Automatic side-cutter, \$400, Steele Hoist No. 2, \$75, Steele, 30-ft. friction clutch, clay conveyor, 16-in. belt, \$160. Steele Disintegrator No. 2, \$150. 3 Steele, spring, yard, trucks, \$54. Belts, pulleys, valves, tools. Price list on request. F. O. B., Tuscaloosa, Alabama. Address: T. H. McMichael, Alton, Ala. 6-2

FOR SALE

1 Freese Mammoth Junior brick machine.

1 Freese 10 ft. pug mill.

Both in good condition.

Address: Frank H. Robinson, 426 Fulton Bldg., Pittsburgh, Pa. 62-1

FOR SALE—Two eight-foot International Gas Producers. One six-foot International Producer. 500 ft. 3-foot gas mains with fire brick lining. One 15 horse power Sturtevant horizontal steam engine. The above material is a real bargain to a quick purchaser. Granite Clay Products Co., North Mountain, W. Va. 6-2

FOR SALE—One Nine-Foot Wet Pan, arranged for belt drive with F. C. Pulley and Mechanical Unloader. Purchased from American Clay Machinery Company and used about one year. Machine in perfect running order. Reason for sale, change in process of manufacture. Address: 6-P, care of "Brick and Clay Record." 6-2

FOR SALE—One Freese cutter, C-30 Space of wires, 2½-in. Number of brick cut at each stroke, 25. Cutter in first class condition and can be inspected at our plant any day. A bargain if disposed of soon. Decatur Brick Mfg. Co., Decatur, Ill. 6-2

FOR SALE—Second hand industrial cars and track. 25 one and one-half yard 24-inch cradle dump cars. Twelve one-yard Lakewood V type dump cars. Ten thousand feet track. Eighteen switches. Union Sulphur Company, Sulphur, La. 62-2

FOR SALE CHEAP—One four mold Berg Dry Press, good as new. Made only two million brick. Address: Hocking Valley Brick Company, Columbus, Ohio. 5-4

FOR SALE—Five 24-inch gauge, V shape, all metal, 2-way rocker, side dump Lakewood cars. Good as new. Address: 62-Cars, care of "Brick and Clay Record." 62-2

FOR SALE—Kiln bands complete for bee-hive kilns. Also door frames. All first class condition. China Products Co., Zanesville, Ohio. 62-1

FOR SALE—One brand new one yard Page drag-line bucket, chain hoist bale, heavy manganese steel cutting edge, carbon steel trunnions and two part manganese steel teeth. Union Sulphur Co., Sulphur, La. 62-2

FOR SALE—Frost six-foot dry pan nearly new, with plates for changing to wet pan. C. C. James, 140 West Van Buren Street, Chicago, Ill. 6-2

FOR SALE—64 slightly used cast iron two-deck drier cars, 26 inch gauge, in good condition. A. Bargain. P. O. Box 207, Brazil, Ind. 62-2

FOR SALE—One four mold Berg press, in good condition. Address: Improved Brick Co., Salt Lake City, Utah. 62-3P

Classified Advertisements

FOR SALE

Owned by Us and Sold Under Absolute Guarantee

ROAD BUILDING EQUIPMENT

- 1—10-ton Austin Gasoline Road Roller.
- 1—12-ton Austin Gasoline Road Roller.
- 10—3-yd. Troy Reversible Dump Wagons. Immediate delivery.

STEAM SHOVELS

- 3—70-C Bucyrus, shop Nos. 1474, 1371, 1126, 2½-yd. dippers.
- 1—45-C Bucyrus, shop No. 1202, 1¾-yd. dipper.
- 1—Model 76 Marion Special, shop No. 2777, equipped with high lift boom giving clear height of lift of 21 ft.; dippers 2½ and 3 yd. capacity. Especially desirable for digging clay or shale in high bank.

REVOLVING TRACTION SHOVELS

- 2—Model 28 Marion revolving traction, ¾-yd. dipper, shop Nos. 2803 and 2804.
- 1—Bucyrus 18-B Revolving Traction Shovel, ¾-yd. dipper, shop No. 2058.
- 1—Type B Erie Shovel, shop No. 149, equipped with ¾-yd. dipper.

DUMP CARS

- 100—12-yd. standard gage Western air dump cars.
- 20—12-yd. standard gage Oliver side dump cars.

18—16-yd. standard gage Western Side Dump cars.

- 5—6-yd. standard gage K. & J. side dump cars.
- 25—4-yd., 36-in. gage Western.
- 66—4-yd. heavy duty Western, 36-in. gage, side dump cars.
- 40—1½-yd., 24-in. gage Western Dump Cars.
- 8—2-yd., 24-in. gage Western Dump cars.

LOCOMOTIVES

- 1—17x24 cylinder, Baldwin, 6 wheel switcher with tender. Weight 43 tons on drivers; 44 in. wheel centers; 10 ft. rigid wheel base; 150 lb. steam pressure.
- 2—16x22 cylinder, 32 ton, 4-wheel switchers with tenders, C. M. & St. P. Ry., class J2 locomotives.
- 10—36-in. gage, 10x16 and 9x14 Davenport American and Vulcan saddle tank locomotives.
- 1—7x12 cylinder, 24-in. gage Davenport, saddle tank locomotive. Weight 9 tons.

RAIL, SWITCHES, SPIKES, ETC.

- 1 mile of track, 45-lb. rail, with angle bars.
- 1—Carload 4½, 5 and 5½-in. spikes.
- 10 tons angle bars for 70-lb. and 75-lb. rail.

1—Carload good 60-lb. rail with angle bars.

BOILERS, MIXERS, DERRICKS, ETC.

- 3—Brownell, 72-in. x 18-ft. Horizontal Tubular Boilers, with 4-in. tubes.
- 1—20x22¼x15¼x21 AA2 Ingersoll-Rand Compressor, 1600 ft. capacity.
- 1—66x18 vertical air receiver, complete.
- 1—30x6 vertical air receiver, complete.
- 1—16x16x18-in. Laidlaw-Dunn-Gordon Air Compressor with reservoir, weight 15,000 lb.
- 1—Stationary Engine, horizontal center crank type, 10x12-in. cylinder, slide valve type, 25 h.p.
- 2—Milwaukee (16 cu. ft.) Mixers.
- 1—American 5-ton Derrick, 60-ft. boom, 12-ft. circle, with 7x10 double cylinder, double drum American Hoisting Engine, with boom swinger attachment and cables, as good as new.
- 1—American, 10-ton Derrick, 70-ft. boom, 12-ft. circle, 8¼x10 double cylinder, double drum Amer. hoist, with Duke independent swinger, no cables, perfect condition.
- 3—1-yd. Concrete Buckets.
- 6—24-in. gage, 1-yd. Koppel Cars, approximately 1000 ft. 24-in. gage Koppel track.
- 1—No. 44 Koehring Concrete Mixer.

CLAPP, NORSTROM & RILEY EQUIPMENT CO.

12 and 14 South Canal St., Chicago

Northwestern Branch: 1308 Pioneer Bldg., St. Paul, Minn.

FOR SALE

- 1 Upright American brick machine with pug-mill attached.
 - 1 35 H. P. locomotive boiler.
 - 1 Friction hoist.
 - 1 No. 2 Horton disintegrator.
 - 20,000 wooden pallets, 10 in. x 34 in.
- Dunkirk Brick and Tile Co., Dunkirk, N. Y.
62-TF

FOR SALE—One Chambers Brothers stiff-mud brick machine, 50,000 capacity. Price, 25% of original cost. Address: 52-Chambers, care of "Brick and Clay Record."
5-2-TF

FOR SALE—Because our property has been sold for City lots, we are offering one Frey-Sheckler Bucyrus Giant Machine and full equipment for making hollow tile, flat arches, and farm drain tile, all in good working order. Also pine pallets 32 in. long in carload lots at \$30.00 per thousand. Rochester Brick & Tile Mfg. Co., Rochester, N. Y.
5-2-2

Practically new—One 14-B BUCYRUS STEAM SHOVEL, No. 2173, on caterpillars. Price \$6,500.00, f.o.b. Sulphur Mine, La. The Union Sulphur Co., Sulphur, La.
5-2-4

SECOND HAND RAILS

25 tons of 20 lb., 30 tons of 30 lb. and 35 lb., 50 tons of 40 lb., in first class condition. Can ship immediately. Also a limited amount of new 12 to 16 lb. rail.

M. K. FRANK,
Frick Bldg. PITTSBURGH, PA.
2-2-TFX

Rails NEW STEEL
12-16-20 lb.
Immediate Shipment
ZELNICKER IN ST. LOUIS

Get Bulletin 250—Quarter Million Circ.—88 pages
Locomotives, Cars, Machinery, Pipes, Tanks
Road Rollers, Crushers, Etc.

FOR SALE—Brick machinery. 65 h.p. compound engine, 5 h.p. upright boiler complete, lime grinder, blower, elevating machinery, brick cars, dryer, sand conveyor, wide canvas belts for carrying sand. Manistee Brick Co., Manistee, Mich.
4-TFX

FOR SALE—One D size Fate brick and tile machine, with down-delivery attachment for large tile. One leach table, one Bensing Automatic table for 3 to 8 inch tile. One Fate No. 1 smooth roll crusher. Otto Gerhardstein, St. Stephen, Ohio.
3-2-TF

FOR SALE—Two complete sets of indicating and recording pyrometers; latest type 20 point Rotary switch boards; manufactured by the Brown Instrument Company. Very little used, good as new. Kankakee Tile & Brick Co., Kankakee, Ill.
52-3

FOR SALE—Freese C40 Automatic brick and block cutter, which we have replaced with Model C30. Good condition. Price reasonable. Address: Brazil Clay Company, Brazil, Ind.

ONE Andrews dry brick machine. One Scotts 9 ft. dry pan. Condition good. Garrett Vaught, Box 104, Garrison, Texas.
42-5

FOR SALE—Three ton 30 in. gage Plymouth locomotive, two J. D. Fate bottom dump cars; all in A-1 condition. Address: Frank E. Fleagle, Morrisonville, Ill.
5-4P

One Nine Foot Dry Pan
(Run less than one-half day)
One Nine Foot Heavy Duty Wet Pan
(Never been run)
One Type 430 Auger Machine
(Never been run)
One Ten Foot Single Gear Pug Mill
(Never been run)
One Hollow-Ware Cutting Table
(Never been run)
4—Disc Clay Feeders
Also piano wire screen, elevator fixtures and conveyors.
Address: 32-Mfr. Care of
"Brick and Clay Record"
3-2TF

FOR SALE—One 14-inch Justice clay crusher in first-class, second-hand condition. Corinth Brick Company, Corinth, Mississippi.
5-2-3

FOR SALE—Five-foot Raymond, (International Clay Co.) dry pan equipped with new screen plates and muller track plates. One piano wire screen with iron frame as good as new. Address: 6-C, care of "Brick and Clay Record."
6-2

FOR SALE—Two Richardson paving block presses and one American Clay Machinery Co.'s No. 342 rotary automatic cutter. These machines are in excellent condition. Address: Bradford Pressed Brick Company, Bradford, Pa.
5-TF

FOR SALE

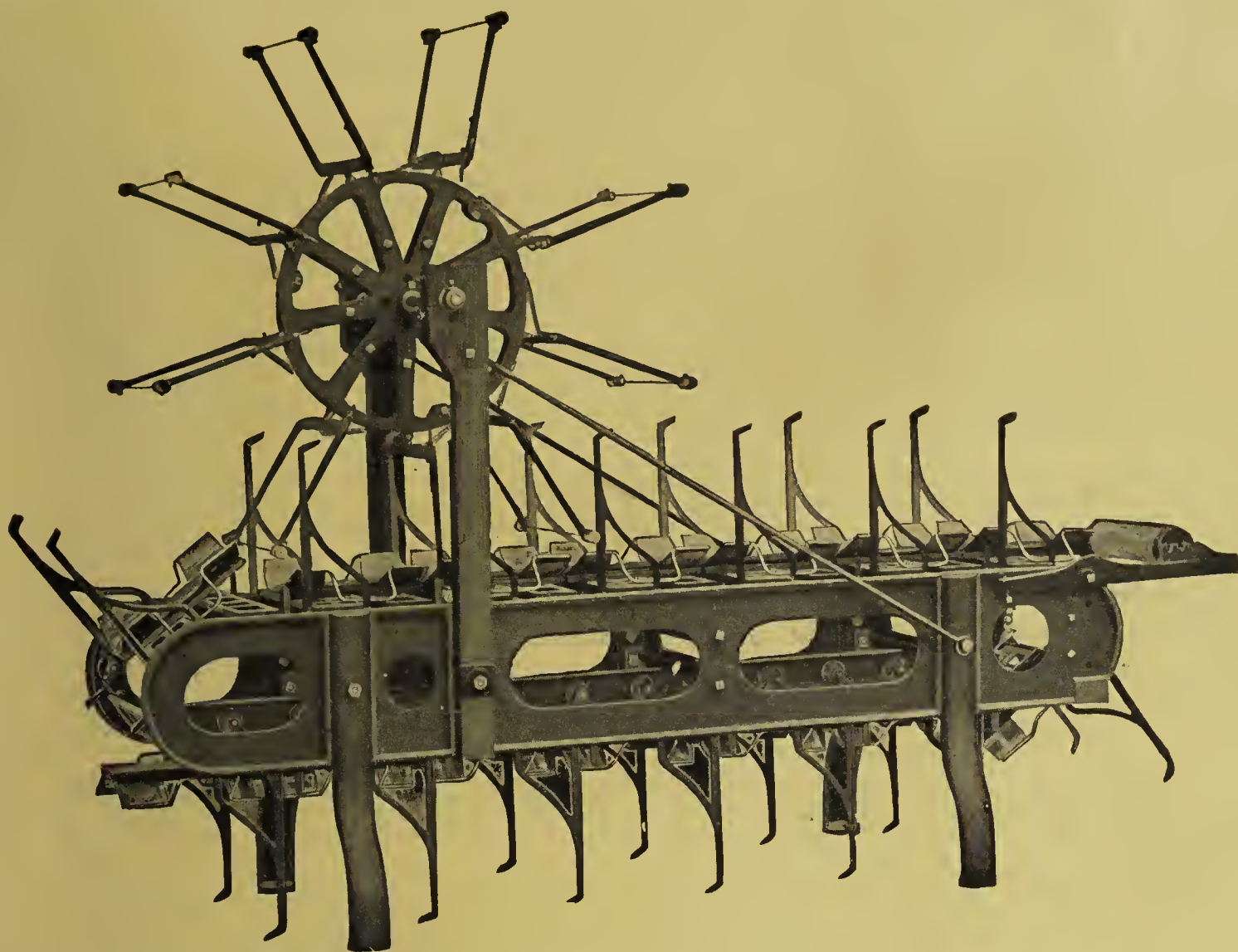
Practically new—One 70-C BUCYRUS STEAM SHOVEL, No. 1860. Price \$12,500.00, f.o.b. Sulphur Mine, La. The Union Sulphur Co., Sulphur, La.
5-2-4

FOR SALE—New Ross Keller four-mold triple pressure brick press. Excelsior Tool & Machine Co., Manufacturers of Brick Presses and Pulverizers, East St. Louis, Ill.
11-TF

For Sale or Rent

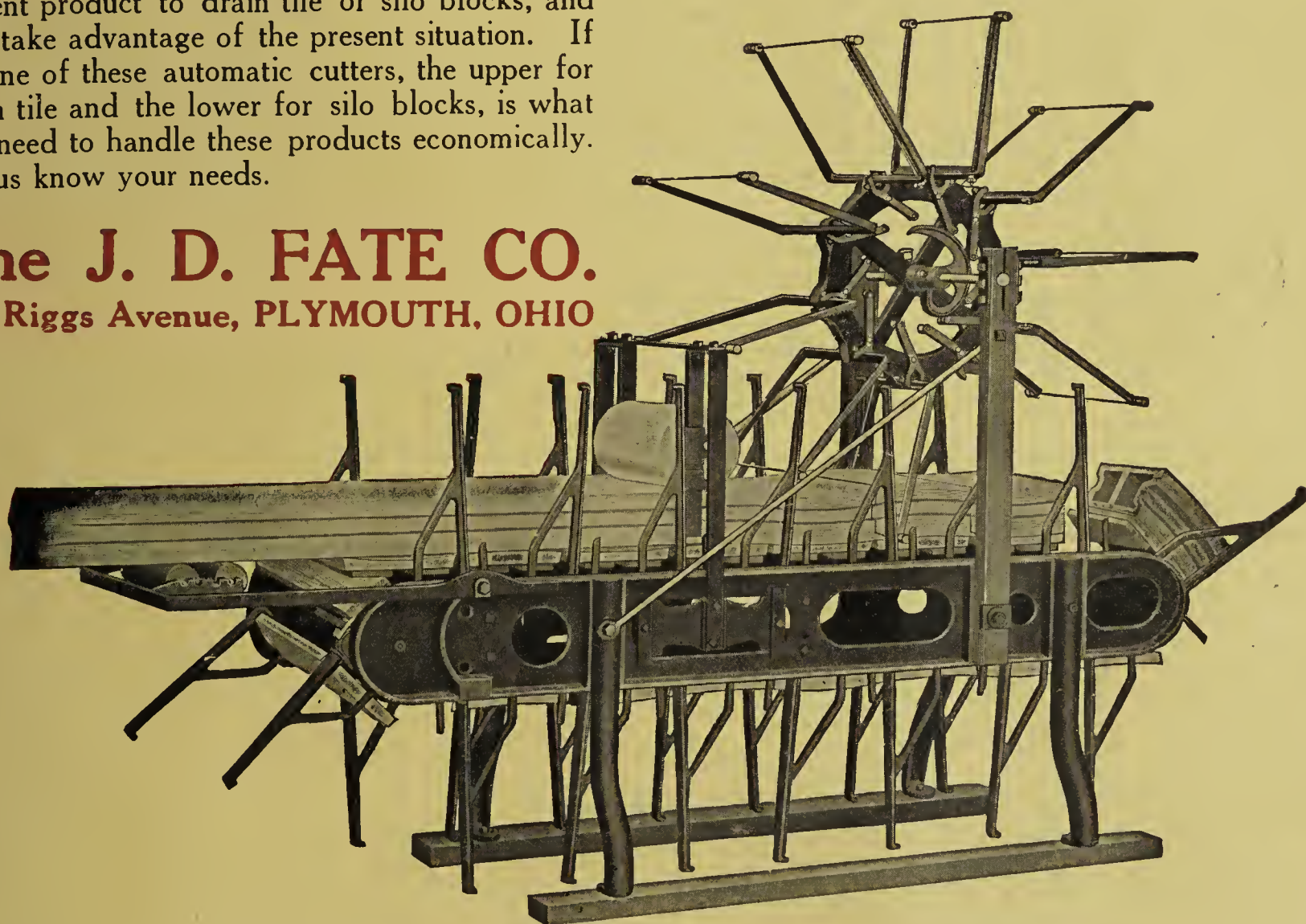
STEAM SHOVEL
Thew "O" Traction Wheels
5/8 Yd. Dipper. Fine Condition

The C.A. Edwards Co.
4209 Euclid Avenue CLEVELAND



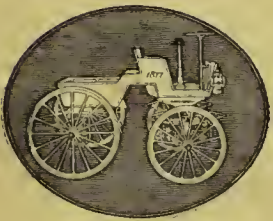
Perhaps you are planning on changing your present product to drain tile or silo blocks, and thus take advantage of the present situation. If so, one of these automatic cutters, the upper for drain tile and the lower for silo blocks, is what you need to handle these products economically. Let us know your needs.

The J. D. FATE CO.
241 Riggs Avenue, PLYMOUTH, OHIO



BRICK AND CLAY RECORD

Selden



1877-1919

The first gasoline motor propelled road wagon was a SELDEN. The present types of SELDEN TRUCKS are the result of years of continuous experiment, observation and experience in manufacture since the day of their inception in 1877.

The purchase price is not to be considered altogether in reckoning the cost of the motor truck you choose for your business. It is the cost of the truck plus the cost of operation and upkeep at the end of the year that should be considered—and not at the end of the first year alone, but each succeeding year after the truck is in operation.

It is in such a final analysis that SELDEN TRUCKS prove to be the lowest in cost.

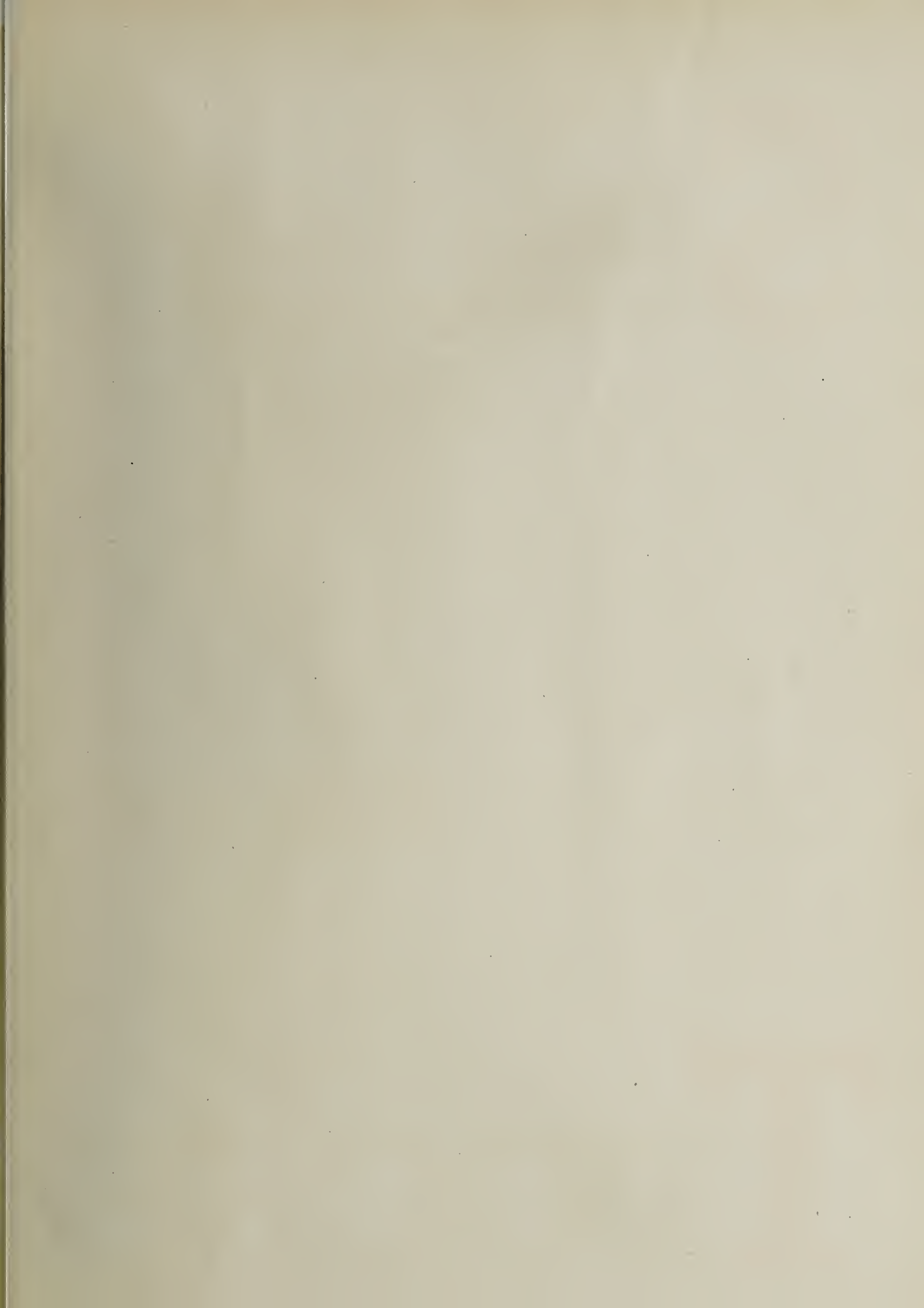
The type of service rendered by SELDEN TRUCKS—uninterrupted service at low operating cost—makes satisfactory transportation cost accounts possible.

SELDEN TRUCKS will solve YOUR transportation problems. 1, 1½, 2, 3½, 5 Ton Worm Drive Models, equipped with bodies to meet the particular requirements of the brick and clay industry. Ask the Selden Dealer in your locality, or write us for information.

SELDEN TRUCK SALES COMPANY

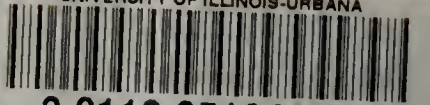
ROCHESTER, N. Y., U. S. A.

Trucks



[The page contains extremely faint, illegible text, likely bleed-through from the reverse side.]

UNIVERSITY OF ILLINOIS-URBANA



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